

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐  
(highlight changes)

APPLICATION FOR PERMIT TO DRILL				5. MINERAL LEASE NO: UTU-73489	6. SURFACE: Federal
1A. TYPE OF WORK: DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>				7. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A	
B. TYPE OF WELL: OIL <input checked="" type="checkbox"/> GAS <input type="checkbox"/> OTHER _____ SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/>				8. UNIT or CA AGREEMENT NAME: Cactus Rose Unit	
2. NAME OF OPERATOR: North American Exploration, LLC, Attn: Walt Lowry				9. WELL NAME and NUMBER: CRU 30-34-2218	
3. ADDRESS OF OPERATOR: 110 16th St. Suite 1220 CITY Denver STATE CO ZIP 80202			PHONE NUMBER: (303) 327-7144	10. FIELD AND POOL, OR WILDCAT: Wildcat	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: 469' FSL & 1,677' FEL AT PROPOSED PRODUCING ZONE: Same as Surface				11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWSE 30 22S 18E	
14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE: Approximately 13.5 miles southeast of Green River, Utah				12. COUNTY: Grand	13. STATE: UTAH
15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET) 1,677' FEL		16. NUMBER OF ACRES IN LEASE: 1,250.84		17. NUMBER OF ACRES ASSIGNED TO THIS WELL: 40 Acres	
18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET) 5306.9'		19. PROPOSED DEPTH: 2,500		20. BOND DESCRIPTION: UTB000296	
21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.): 4,548' GR		22. APPROXIMATE DATE WORK WILL START: 9/1/2008		23. ESTIMATED DURATION: 30 days	

24. PROPOSED CASING AND CEMENTING PROGRAM							
SIZE OF HOLE	CASING SIZE, GRADE, AND WEIGHT PER FOOT			SETTING DEPTH	CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT		
20"	16"			40			
12-1/4"	8-5/8"	J55	24#	300	HowcoLT+.25 Ply-Fik	125 SXS	2.08 yld 12.8#
7-7/8"	5-1/2"	J55	15.5#	2,500	Stage 1:		
					HowcoLT+.25 CeloFik	125 SXS	2.08 yld 12.8#
					Stage 2:		
					HowcoLT+.25 CeloFik	185 SXS	2.08 yld 12.8#

25. ATTACHMENTS	
VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:	
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER <input type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN <input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

NAME (PLEASE PRINT) Glen T. Nebeker TITLE Authorized Agent For: North American Exploration

SIGNATURE *Glen T. Nebeker* DATE 8-28-08

(This space for State use only)

Approved by the  
Utah Division of  
Oil, Gas and Mining

APPROVAL:

**RECEIVED**

**SEP 02 2008**

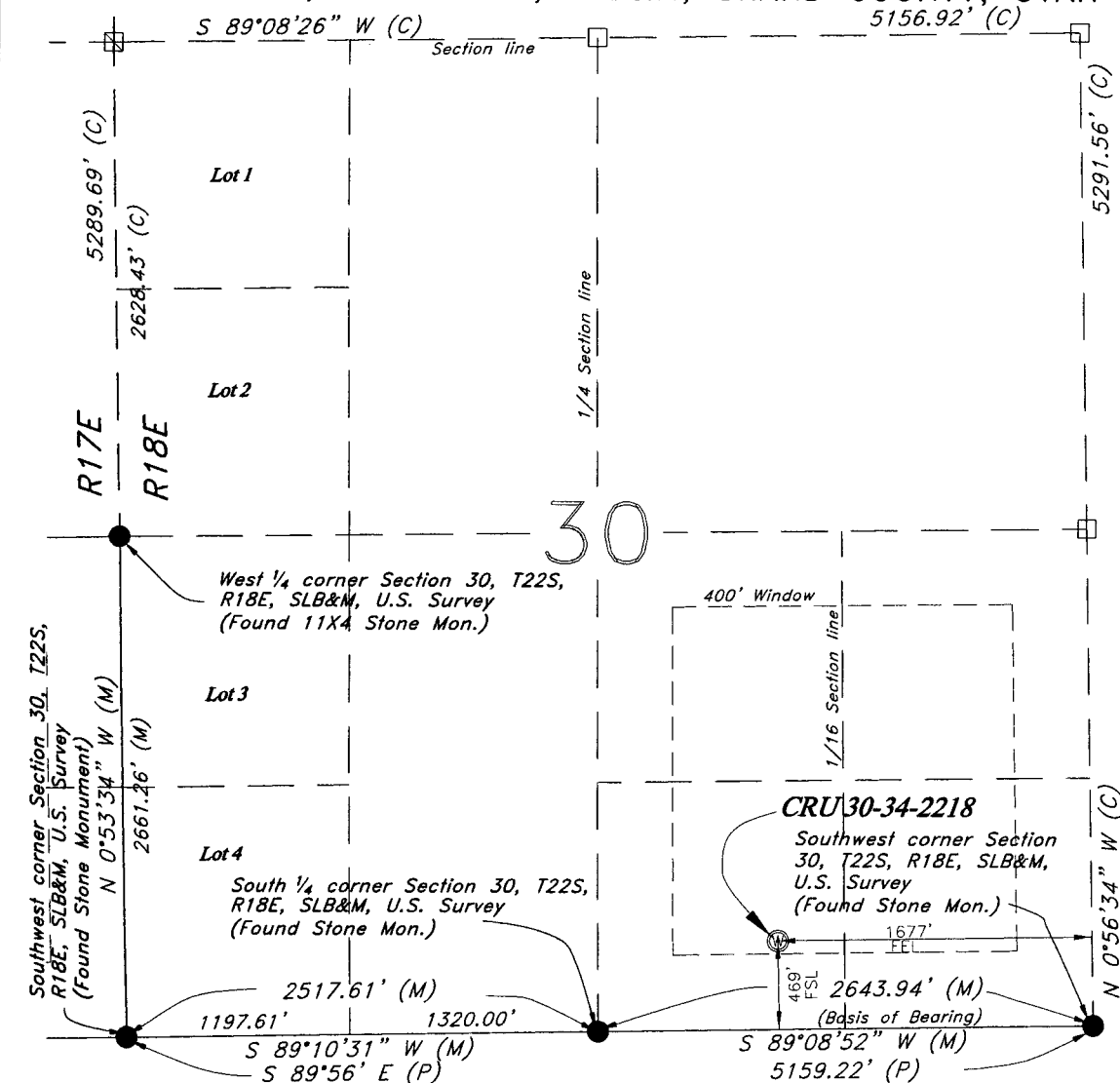
API NUMBER ASSIGNED: 43-019-31599

Date: 09-16-08  
(See Instructions on Reverse Side)  
By: *[Signature]*

DIV. OF OIL, GAS & MINING

# WELL PLAT FOR "CRU 30-34-2218"

## SECTION 30, T22S-R18E, SLB&M, GRAND COUNTY, UTAH



### PROPOSED WELL SITE

LATITUDE: 38.86290°N  
 LONGITUDE: 109.97338°W  
 ELEVATION: 4548' (Graded)  
 DISTANCES ARE GROUND  
 NAD 83, NAVD 88  
 SF:1.000169  
 UTAH STATE PLANE  
 CENTRAL ZONE

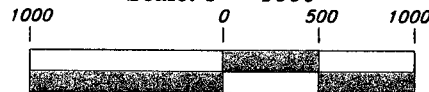
### For Reference Only

Latitude: 38.86292°N  
 Longitude: 109.97269°W  
 NAD 27

### LEGEND:

- ⊙ - PROPOSED WELL LOCATION
- - FOUND STONE MONUMENT
- - CALCULATED CORNER
- M - MEASURED WITH GPS
- P - 1907 GLO PLAT
- C - CALCULATED

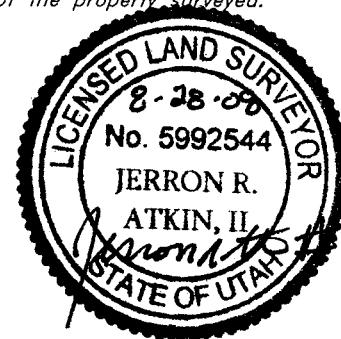
Scale: 1" = 1000'



Graphic Scale

### CERTIFICATION

I, Jerron R. Atkin II, do hereby certify that I am a Registered Land Surveyor, and that I hold Certificate No. 5992544, as prescribed by the Laws of the State of Utah, and I have made a survey based on information collected on the ground and of record. I have relied upon a GLO plat and notes of Township 22 South, Range 17 East, conducted by H.D. Heist and approved on March 18, 1907 and file No. 1184. I further certify that the above plat correctly shows the true dimensions of the property surveyed.



### BASIS OF BEARING

Basis of bearing is S 89°08'52" W between the South 1/4 and Southeast corners of Section 30, T22S, R18E, S.L.B.&M., U.S. Survey.

### BASIS OF ELEVATION

Elevation based on a GPS observation of a rebar control point set by Western Land Services for this survey, which is located in the Northwest Quarter of Section 32, T21S, R18E, S.L.B.&M., U.S. Survey. Elevation=4509 feet.

### NARRATIVE

The purpose of this survey is to plat the location of the proposed well "CRU 30-34-2218" which is located in the Southwest 1/4 of the Southeast Quarter of Section 30, T22S, R18E, S.L.B.&M., U.S. Survey.

NORTH AMERICAN EXPLORATION  
 PROJECT: CRU 30-34-2218



Richfield, UT 84701 (435) 896-5501

File: CRU WELL PLATS.DWG

Date: 08/27/08

BLM- Utah State Office  
Attn: Mickey Coulthard  
440 West 200 South, Suite 500  
Salt Lake City, Utah 84101  
PH: (801) 539-4112

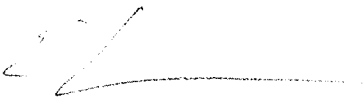
August 25<sup>th</sup>, 2008

Dear Mickey,

Please allow Western Land Services (WLS), who resides at 195 North 100 East, Suite #201, Richfield, Utah 84701 and their assigns to act as NAE, LLC's agent in the permitting of NAE LLC's oil, gas and other wells in the State of Utah. They may act in full capacity as our agent to file and request official documents, perform field work, and any other task necessary to file and acquire APDs. Please acknowledge and approve of this agent designation at your earliest convenience.

Thank you and if you should any problems, please do not hesitate to contact me at 303-327-7144.

Thank You,



Erik Larsen  
North American Exploration LLC

Bureau of Land Management  
Moab Field Office  
Moab, Utah  
Application for Permit to Drill

**TIGHT HOLE STATUS**

Company: North American Exploration

Well No. CRU 30-34-2218

Location: Sec 30 T22S R18E

Lease No. UTU-73489

On-Site Inspection Date: 07/30/08

All operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR § 3100 & 43 CFR § 3160), Onshore Oil and Gas Orders, the approved plan of operations and the conditions of approval. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

**THIRTEEN POINT SURFACE USE PLAN**

The dirt contractor will be provided with an approved copy of the surface use plan of operations before initiating construction.

1. Existing Roads:

- a. Proposed route to location (submit a map depicting access and well location, 1:100,000 scale). See attached APD map.
- b. Location of proposed well in relation to town or other reference point:  
The well location is approximately 13.5 miles southeast of Green River, Utah.
- c. Plans for improvement and/or maintenance of existing roads: Existing county roads will be upgraded and maintained as necessary. When necessary, roads will be re-graded to establish a running surface of 14 feet. Where soil conditions dictate the use of stabilizing material, 6 inches of 4 inch minus granular borrow will be used.
- d. Other: NA

2. Planned Access Roads (1:24,000 scale: 12 inch surveyor stakes):

- a. Location (centerline): Refer to construction diagrams, Sheets PP-1 through PP-3, and APD Map.
- b. Length of new access to be constructed: .54 miles
- c. Length of existing roads to be upgraded: 0 miles
- d. Maximum total disturbed width: approximately 24 feet (Turnouts)
- e. Maximum travel surface width: 14 foot travel lanes, 24 foot turnouts
- f. Maximum grades: 5.7%

- g. Turnouts: 2
- h. Surface materials: 4 inch minus granular barrow
- i. Drainage (crowning, ditching, culverts, etc): Three (3) Low Water Drainage Dips, SHEETS PP1, PP2, & D3
- j. Cattleguards: none
- k. Length of new and/or existing roads which lie outside the lease or unit boundary for which a BLM right-of-way is required: 0 mile
- l. Other:

Surface disturbance and vehicular travel will be limited to the approved location and access road. Any additional area needed must be approved by BLM in advance.

If a right-of-way is necessary, no surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to conditions of approval in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.

If a right-of-way is secured, boundary adjustments in the lease or unit shall automatically amend this right-of-way to include that portion of the facility no longer contained within the lease or unit. In the event of an automatic amendment to this right-of-way grant, the prior on-lease/unit conditions of approval of this facility will not be affected even though they would now apply to facilities outside of the lease/unit as a result of a boundary adjustment. Rental fees, if appropriate shall be recalculated based on the conditions of this grant and the regulations in effect at the time of an automatic amendment.

If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental fees, or other financial obligations determined by the BLM.

If the well is productive, the access road will be brought to Resource (Class III) Road Standards within 60 days of dismantling the rig. If upgraded, the access road must be maintained at these standards until the well is properly abandoned. If this time frame cannot be met, the Field Office Manager will be notified so that temporary drainage control can be installed along the access road.

- 3. Location of Existing Wells: On a map (1:24,000 scale), show the location of all water, injection, disposal, producing and drilling wells within a one mile radius of the proposed well, and describe the status of each.

No existing wells of any type exist within a one mile radius of this proposed well.

- 4. Location of Production Facilities:

- a. On-site facilities: If the well is a producer on-site facilities will be applied for and installed. All or part of this equipment could be on a location:

There will be five (5) 400 BBL oil tanks and two (2) 400 BBL salt water tanks.

One (1) high pressure 36" x 10' 3 phase separator  
One (1) low pressure 30" x 10' 3 phase separator  
One (1) 6' x 20' heater treater  
One (1) 3 phase high pressure gas production unit  
One (1) gas dehydrator  
One (1) gas compressor  
Two (2) transfer pumps for handling produced fluids  
One (1) large beam pumping unit and engine

b. Off-site facilities: None

c. Other: All permanent (in place for six months or longer) structures constructed or installed (including oil well pump jacks) will be painted a flat, non-reflective color to match the standard environmental colors, as determined by the Rocky Mountain Five-State Interagency Committee. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded. Colors will be as follows: Colors will match the surrounding soils and vegetation.

All site security guidelines identified in 43 CFR § 3162.7-5 and Onshore Oil and Gas Order No. 3 shall be followed.

If a gas meter run is constructed, it will be located on lease within 500 feet of the wellhead. The gas flowline will be buried from the wellhead to the meter and will be buried downstream of the meter until it leaves the pad. Meter runs will be housed and/or fenced. The gas meter shall be calibrated prior to first sales and shall be calibrated quarterly thereafter. All gas production and measurement shall comply with the provisions of 43 CFR § 3162.7, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.

If a tank battery is constructed on this lease, it will be surrounded by a berm of sufficient capacity to contain 1½ times the storage capacity of the largest tank. All loading lines and valves will be placed inside the berm surrounding the tank battery. All oil production and measurement shall conform to the provisions of 43 CFR § 3162.7 and Onshore Oil and Gas Order No. 4. If water is produced from the well; steel coated water tanks will be used.

5. Location and Type of Water Supply:

All water needed for drilling purposes will be obtained from (describe location and/or show on a map): Municipal water from Thompson Springs, Utah.

6. Source of Construction Material:

Pad construction material will be obtained from (if the source is Federally owned, show location on a map).

Materials needed will be obtained from a private source.

The use of materials under BLM jurisdiction will conform to 43 CFR § 3610.2-3.

7. Methods of Handling Waste Disposal:

Describe the methods and locations proposed for safe containment and disposal of waste material, e.g. cuttings, produced water, garbage, sewage, chemicals, etc.

The reserve pit will be lined with (native material, bentonite, synthetic material): The pit will be lined with 12 mil, or greater (depending on the pit substrate), thick polyethylene nylon reinforced liner material.

The reserve pit will be located: See construction diagrams, Sheet PAD. The pit walls will be sloped at no greater than 2 to 1.

The reserve pit shall be located in cut material, with at least 50% of the pit volume being below original ground level. Three sides of the reserve pit will be fenced before drilling starts. The fourth side will be fenced as soon as drilling is completed, and shall remain until the pit is dry. As soon as the reserve pit has dried, all areas not needed for production will be rehabilitated.

The reserve pit will be used for the disposal of waste mud and drill cuttings. All borehole fluids will be contained in the reserve pit. All appropriate measures will be taken to prevent leakage into the substratum or onto the surface. All appropriate measures will be taken to prevent overflow, and a minimum of 2 feet of freeboard will be maintained in the reserve pit. It will be constructed on the well pad. See construction diagrams, Sheet PAD.

Wastewater will not be discharged on the surface at this site and the drilling of the well will not require a wastewater management plan.

All rubbish and debris will be kept in containers on the well site, and will be hauled to an approved disposal site upon completion of drilling and completion operations and as needed during such operations. There will be no chemical disposal of any type. Self-contained, portable toilets will be used for human waste, and the waste will be disposed at an approved landfill. Sanitation will comply with local and state regulations for the disposal of human waste.

8. Ancillary Facilities: Trailers, garbage containers and portable toilets.

9. Well Site Layout: Depict the pit, rig, cut and fill, topsoil, etc. on a plat with a scale of at least 1"=50'. See construction diagrams, Sheet PAD.

All wells, whether drilling, producing, suspended, or abandoned, will be identified in accordance with 43 CFR § 3162.6.

Access to the well pad will be from: See construction diagrams, Sheet PAD.

The blooie line will be located: At least 100 feet from the well head.

To minimize the amount of fugitive dust and spray escaping from the blooie pit, the following blooie line deflection method will be employed: water injection

10. Plans for Restoration of the Surface:  
The top 2 to 3 inches of topsoil material will be removed from the location and stockpiled separately on: adjacent to the pad

Topsoil along the access road will be reserved in place adjacent to the road.

Immediately upon completion of drilling, all equipment that is not necessary for production shall be removed.

The reserve pit and that portion of the location not needed for production will be reclaimed.

Before any dirt work to restore the location takes place, the reserve pit must be completely dry.

All road surfacing will be removed prior to the rehabilitation of roads.

Reclaimed roads will have the berms and cuts reduced and will be closed to vehicle use.

All disturbed areas will be recontoured to replicate the natural slope.

The stockpiled topsoil will be evenly distributed over the disturbed area.

The abandonment marker will be one of the following, as specified by BLM:

- 1) At least four feet above ground level,
- 2) At restored ground level, or
- 3) Below ground level.

In any case the marker shall be inscribed with the following: operator name, lease number, well name and surveyed description (township, range, section and either quarter-quarter or footages).

Reclamation of the surface will commence as soon after construction, drilling and well completion are concluded, as is practicable. In the event of a dry hole, the drill site and roadways will be restored to their original condition within 180 days after plugging date of the well, depending on weather and other extenuating circumstances.

All junk, debris, or other foreign material must be removed before initiating any dirt work to restore the location. The fence around the reserve pit will be maintained in good repair during the drilling operations and will be completed by constructing the fourth side while the pit is drying. It will remain in place until the pit is completely dry and the site restoration begins. All fences will be four-strand barbed wire.

The reserve pit and that portion of the location and access road not needed for production or production facilities will be reclaimed. All stockpiled topsoil, in proportion to the area being reclaimed, will be used in reclaiming areas without an on-going operation.

Site reclamation will include:

- Removing the road base material from the access road and any other surface that may be covered by such material;
- Recontouring the location to approximate natural contours, to the extent practicable; evenly redistributing stockpiled topsoil over the recontoured areas;
- Scarifying recontoured areas, including the access road, by use of a disk or harrow prior to seeding; and
- Drilling or broadcasting seeds.

The seed mix and rate used will be that recommended by the Authorized Officer. Seed will be drilled where-ever possible. If the seed is broadcast, then a harrow or some other implement will be dragged over the seeded area to assure seed coverage. The seed will be certified, pure live seed, and the seed tags will be available if requested by the Authorized Officer. Certified weed free seed will be used to rehabilitate reclaimed land.



All hillsides and other places where the contractor has moved earthen materials to facilitate operations will be restored to as near original condition as practical. The surface of the re-contoured land will be left in a slightly roughened condition to collect precipitation and to promote seed germination. The site will be fenced with four-strand barbed wire until vegetation is reestablished.

Road base material, used in the construction of the access road and pad, will be removed from the site and disposed in a proper manner. If the reserve pit has adequate capacity, then some or all of the gravel will be buried in the reserve pit, provided that the gravel is not contaminated by oil or other waste materials. The access road will be recontoured using of an excavator or similar equipment, rather than simply ripping the surface.

Culverts will be removed from the site and disposed in an approved landfill. The concrete cellar will be removed from the site and similarly disposed in a landfill, or with the approval of the Authorized Officer may be broken down into small pieces and buried during the Recontouring on the site.

During the life of the project and until the site is released from liability for reclamation, the project will be inspected at least annually for noxious weeds. If invasive noxious weeds are found, the weeds will be treated to eliminate further reproduction (spread), and treatment shall continue until the weeds have been eradicated. If noxious weeds are found, the BLM will be notified of their occurrence.

11. Surface and Mineral Ownership:

The surface of the proposed well site is federally owned and is administered by the Bureau of Land Management, United States Department of Interior.

12. Other Information:

- a. Archeological Concerns: A cultural survey was completed by Western Land Services and no sites were identified.

The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the BLM Field Office. Within five (5) working days, the BLM will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and
- A time frame for the BLM to complete an expedited review under 36 CFR § 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the BLM are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the BLM will assume responsibility for whatever recordation and stabilization of the exposed materials may

be required. Otherwise, the operator will be responsible for mitigation costs. The BLM will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the BLM that the required mitigation has been completed, the operator will then be allowed to resume construction.

b. Other:

Heavy equipment, used to construct and rehabilitate the well pad and access road, will be cleaned and/or sprayed to remove any noxious or invasive weeds and seeds, prior to being moved to the project site. Any other equipment and vehicles, that have been used in other locations, where noxious weeds or seeds could have attached to the equipment, will also be sprayed and/or cleaned.

Any accumulation of hydrocarbons in the reserve pit will be removed and recovered for sale unless it is determined by the Authorized Officer to be waste oil. All waste oil will be disposed of properly at approved facilities.

For reclamation, the pit liner, which is exposed above the cuttings, will be cut and removed from the site and disposed in an authorized landfill. The reserve pit will be backfilled to slightly above grade to allow for settling of the unconsolidated fill material.

All equipment and vehicles will be confined to the access roads and well pad.

Any facilities in an existing right of way that are damaged as a result of the oil and gas operations will be repaired or replaced.

Fire suppression equipment will be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire, the Moab Fire Center will be notified (435)259-1850.



North American Exploration, LLC  
CRU (Cactus Rose Unit) 30-34-2218  
SWSE Sec. 30-T22S-R18E  
Grand County, Utah  
Lease # UTU 073489

## ONSHORE ORDER 1 - DRILLING PLAN

### 1. Estimated Tops of Geological Markers:

Formation	Depth (K.B.)
Mancos (Tununk)	Surface
Carmel	1340'
Navajo Sandstone	1450'
Wingate	1540'
Chinle	2360'

### 2. Estimated Depths of Anticipated Water, Oil, Gas or Other Minerals: (per Proposed Wellbore Construction Diagram attached)

Formation	Depth (K.B.)	Substance
Navajo	1450'	Oil
Wingate	1540'	Oil
	Estimated TD	2500'

### 3. Pressure Control Equipment: (2000 psi schematic attached)

- A. Type: Eleven (11) inch 2M double gate hydraulic BOP on 3,000 psi casinghead, with 2M psi choke manifold equipped per the attached diagram. BOPE as specified in *Onshore Oil & Gas Order Number 1*.
- B. A PVT, stroke counter and flow sensor will be installed to check for flow and monitor pit volume.
- C. Pressure Rating: 2,000 psi BOPE.
- D. Kelly will be equipped with lower Kelly valves.
- E. Testing Procedure:

#### Blow-Out Preventer (Pipe Rams and Blind Rams)

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to the approved working pressure of the BOP stack (if isolated from the surface casing by a test plug) or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

1. When the BOP is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. At thirty (30) day intervals.

In addition to the above, the pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills and tests will be recorded in the IADC driller's log.

**E. Miscellaneous Information:**

The blowout preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and requirements of *Onshore Oil & Gas Order Number 2*.

**4. Proposed Casing & Cementing Program:**

**A. Casing Program: All New**

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Depth Set (MD)
20"	16" O.D.	0.25" w.t.			40' (BGL)
12-1/4"	8-5/8" O.D.	24#	J55	ST&C	0 – 300' (KB) est.
7-7/8"	5-1/2"	15.5#	K55	LT&C	0 – 2,500' (KB) est.

The surface casing will have guide shoe, 1 joint, and float collar. Centralize the shoe joint with bowspring centralizers in the middle and top of the joint and then place bowspring centralizers on every other collar to surface (~6 centralizers total). Thread lock guide shoe and bottom of float collar.

Casing string(s) will be pressure tested to 0.22 psi/foot of casing string length or 1500 psi, whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe.

**B. Casing Design Parameters:**

Depth (MD)	Casing	Collapse (psi)/SF	Burst (psi)/SF	Tension (Mlbs)/SF
40' (GL)	16" OD	NA	NA	NA
300' (KB)	8-5/8", 24#/ft, J55, STC	1370/9.76 (a)	2950/3.21 (b)	244M/33.89 (c)
2500' (KB)	5-1/2", 15.5#/ft, K55, LTC	4040/3.11 (d)	4810/5.23 (e)	239M/6.17 (f)

- (a.) based on full evacuation of pipe with 9.0 ppg fluid on annulus
- (b.) based on 9.0 ppg BHP with no fluid on annulus minus 0.1 psi/ft gas gradient
- (c.) based on casing string weight in air
- (d.) based on full evacuation of pipe with 10.0 ppg fluid on annulus
- (e.) based on 9.0 ppg gradient, gas to surface, with no fluid on annulus, 0.1 psi/ft gas gradient
- (f.) based on casing string weight in air

**C. PROPOSED CEMENTING PROGRAM****Surface Casing - Cemented to surface**

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft <sup>3</sup> /sx)
8-5/8"	Lead/Tail	400	Howco Rockies LT cement + 0.25 pps Poly-E-Flake	125	100%	12.8	2.08

A cement top job is required if cement fallback is greater than 10' below ground level. Top job (weight 15.8 ppg, yield 1.15 ft<sup>3</sup>/sx) cement will be premium cement w/ 3% CaCl<sub>2</sub> + 0.25 pps celloflake. Volume as required.

**Production Casing - Cemented TD to surface**

CASING	SLURRY	FT. of FILL	CEMENT TYPE	SXS	EXCESS (%)	WEIGHT (ppg)	YIELD (ft <sup>3</sup> /sx)
5-1/2"	Stage 1	1000	Howco Rockies LT + 0.25 pps celloflake	125	50% over gauge	12.8	2.08
5-1/2"	Stage 2	1200	Howco Rockies LT + 0.25 pps celloflake	185	50% over gauge	12.8	2.08

Cement volumes for the 5-1/2" Production Casing will be calculated to provide a top of cement to surface. Cement volumes are approximate and are calculated under the assumption that a gauge hole will be achieved. Actual cement volumes may vary due to variations in the actual hole size and will be determined by running a caliper log on the drilled hole and adding 50% excess. Actual cement types may vary due to hole conditions and cement contractor used.

All waiting on cement (WOC) times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.

**5. Drilling Fluids (mud) Program:**

Interval (MD)	Mud Weight	Fluid Loss	Viscosity	Mud Type
0' - 40' (KB)	<8.4	No cntrl	28	Water
40'-300' (KB)	8.4-8.6	No cntrl	28-36	FW Gel/Lime
300'-2500' (KB)	8.4-9.0	8 - 10 ml	32-42	Gel/Polymer Fresh Water Base

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blowout will be available at the well site during drilling operations.

**6. Evaluation Program:**

Tests: As required.

Coring: No cores are currently planned.

Samples: Two (2) sets of cleaned, dried, labeled formation samples will be taken not less than every 20' from the top of the Navajo Sandstone (~1450' TVD RKB) to Total Depth.

Logging

Dual Induction – Triple Combo (CNL/FDC/DIL/GR/CAL)

- Cement Bond Log / Gamma Ray:  
TD to Base of Surface Casing or Top of Cement if below Base of Surface Casing

Stimulation: A stimulation or frac treatment will be designed for completion of this well based on openhole log analysis. The drill site, as approved, will be sufficient size to accommodate all completion activities.

**7. Abnormal Conditions:**

No abnormal temperatures or pressures are anticipated. No H<sub>2</sub>S has been encountered or known to exist from previous wells drilled to similar depths in the general area.

Maximum anticipated bottom hole pressure equals approximately 1300 psi (calculated at 0.52 psi/ft of hole) and maximum anticipated surface pressure equals approximately 1050 psi (anticipated bottom hole pressure minus gas gradient of 0.1 psi/ft to surface).

**8. Anticipated Starting Dates:**

- Anticipated Commencement Date- Must spud prior to November 7, 2008.
- Drilling Days- Approximately 10 days
- Completion Days - Approximately 5 days
- Anticipate location construction within 30 days of permit issue.

**9. Variances:**

None anticipated

**10. Other:**

A Cultural Resource Inventory and Paleontology reconnaissance shall be conducted for the well location, access route and pipeline. The reports shall be submitted to the Division of Oil, Gas and Mining and the Bureau of Land Management upon their receipt.

Single Shot directional surveys will be dropped on every bit trip or will be run on slick line not less than every 1000' of hole drilled, and a survey will be dropped at TD.

### Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I, or someone under my direct supervision, have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

Executed this 28 day of Aug., 2008.

Signature Glen Nebeker

Name (print or type) Glen Nebeker.

Position Title NEPA Specialist/Project Manager.

Address Western Land Services.

195 N. 100 E., Richfield, UT 84701.

Telephone 435-896-5501.

Field representative (if not above signatory)

\_\_\_\_\_.

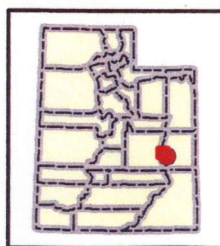
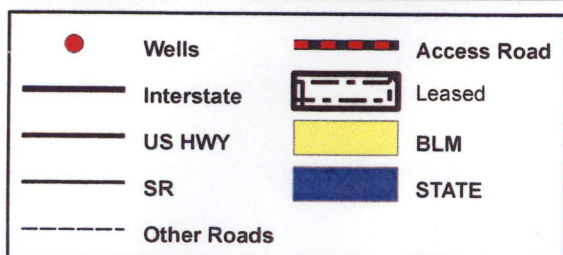
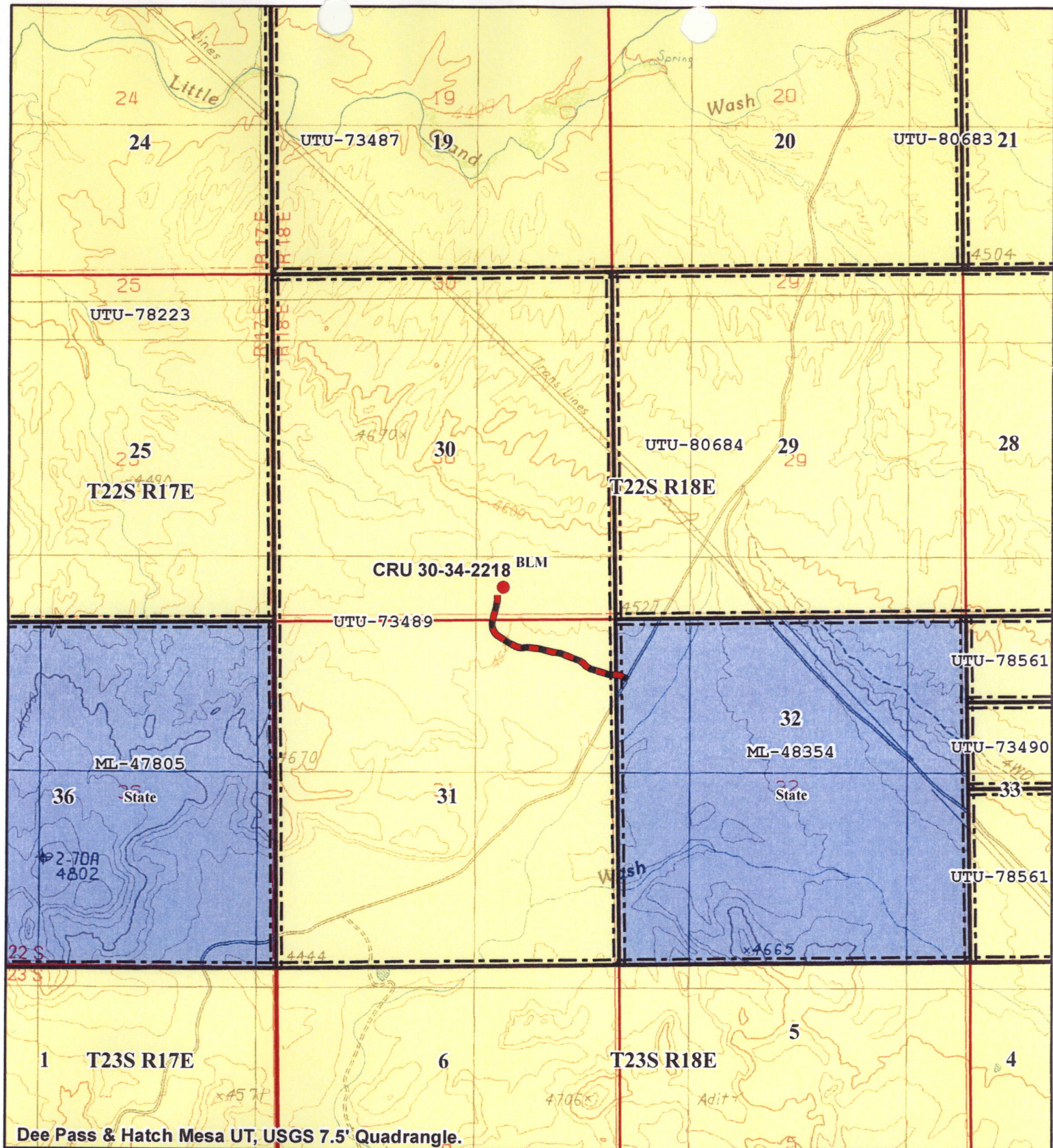
Address (if different from above)

Telephone (if different from above)

E-mail (optional) Glen.Nebeker@westernls.com.

***Agents not directly employed by the operator must submit a letter from the operator authorizing that agent to act or file this application on their behalf.***





1:24,000

0 0.5 1 Miles

North American Exploration

CRU 30-34-2218



Richfield, UT 84701 (435) 896-5501

**CONFIDENTIAL**

Prepared By: DTJ

Date: August 25, 2008

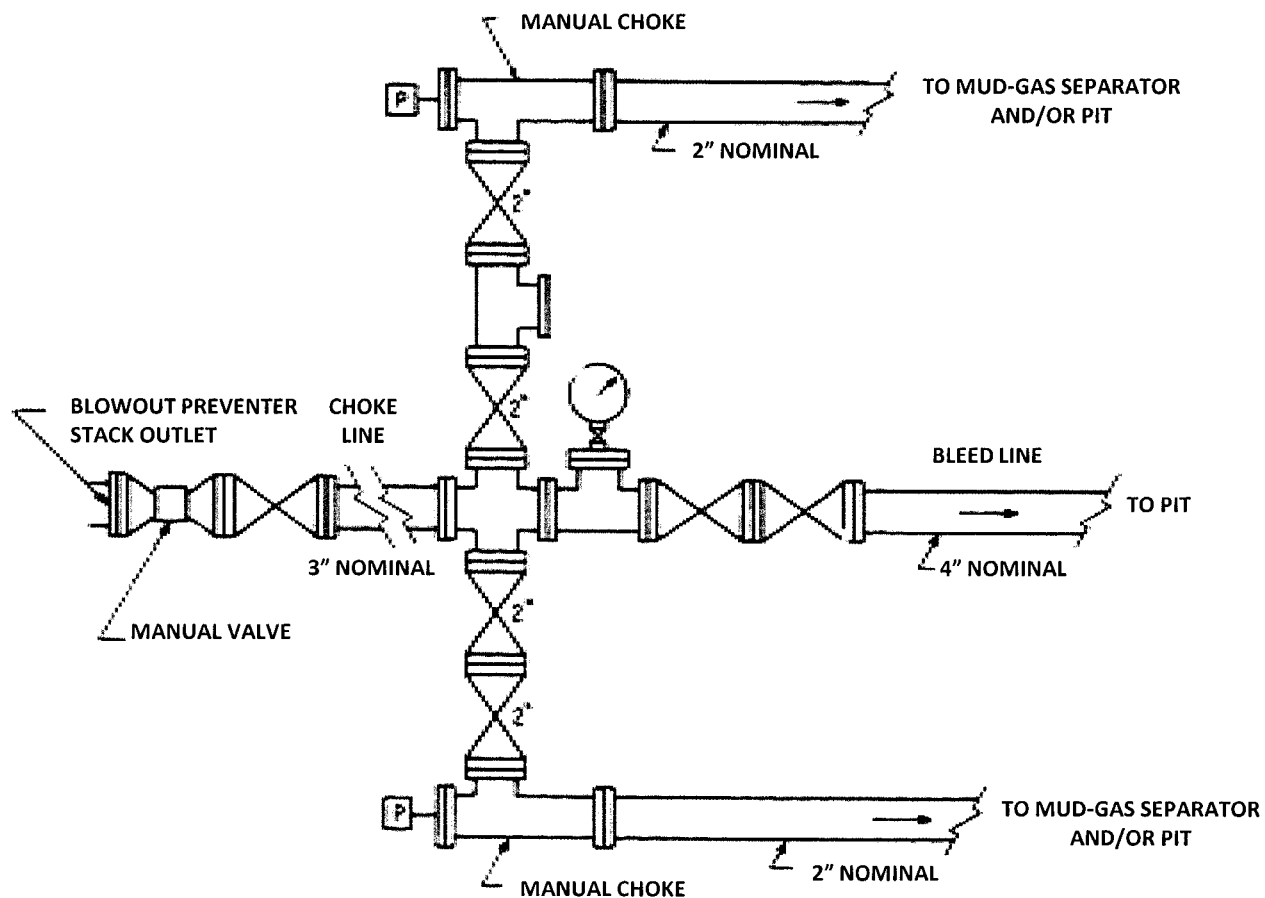
No warranty is made for data usage purposes other than those intended by Western Land Services. Maps are created as part of a GIS that compiles records information and data from various sources. This data experiences frequent updates and accordingly, WLS shall not be liable for any errors or omissions herein.



**Cactus Rose Unit 30-34-2218**

Section 30-34-2218

Grand County, Utah



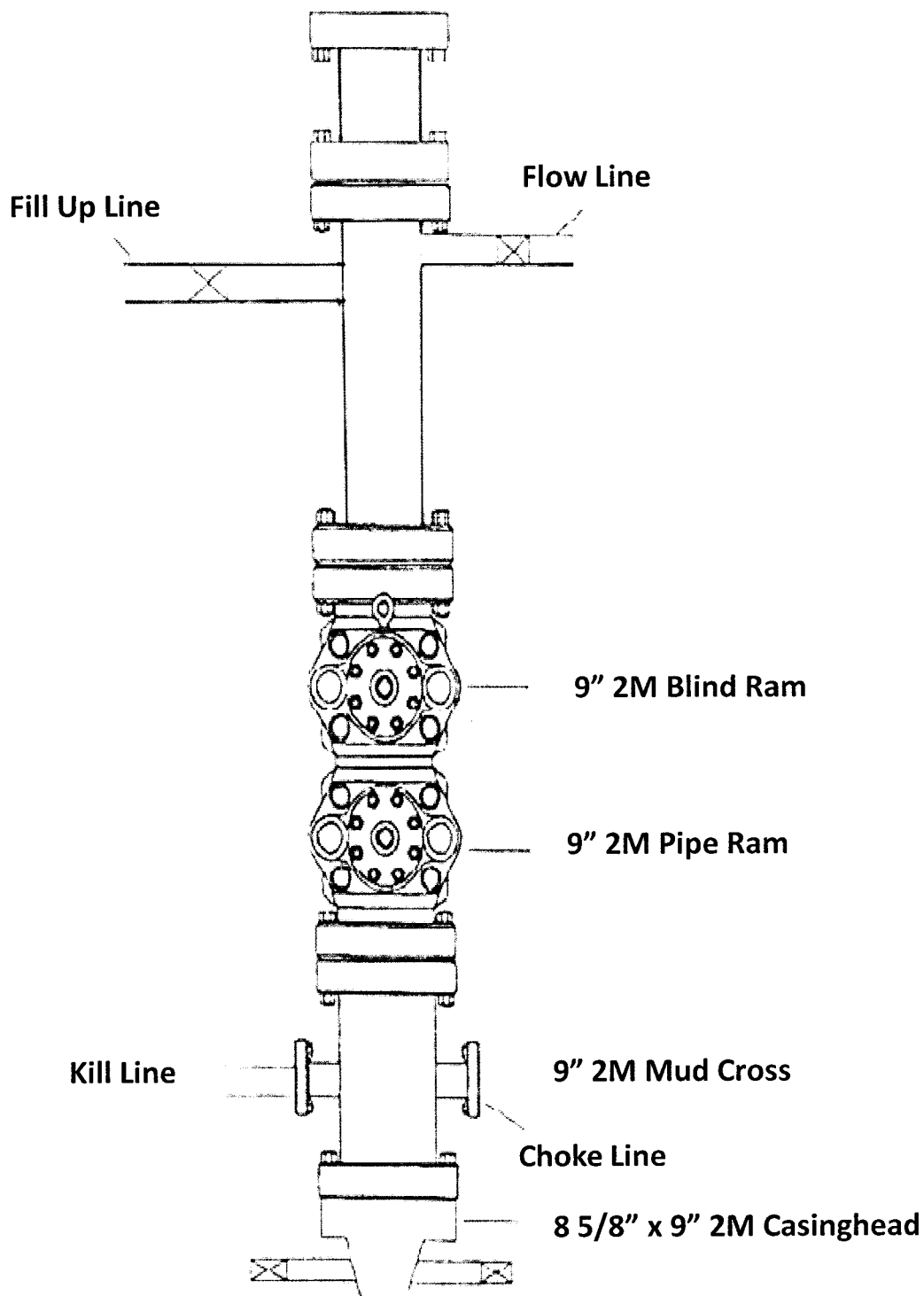
**2M Choke Manifold Schematic**

## Proposed 2M BOP Equipment Diagram

CRU 30-34-2218

Section 30-T22S-R18E

Grand County, Utah

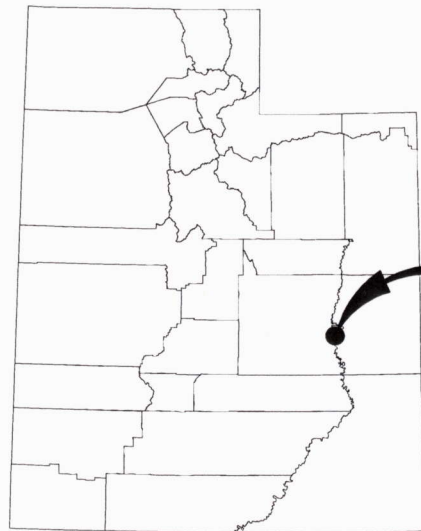


# NORTH AMERICAN EXPLORATION CACTUS ROSE UNIT

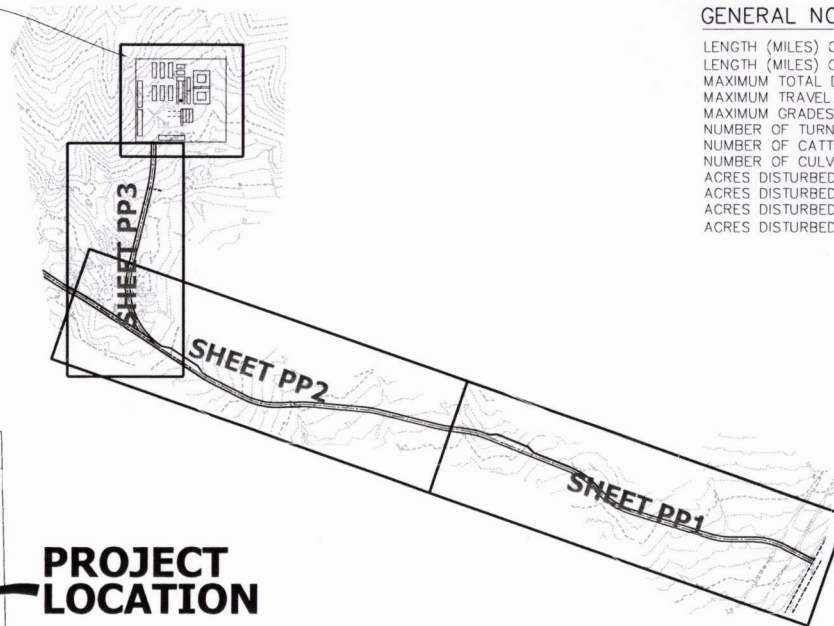
CRU 30-34-2218

SCALE: NTS

CRU 30-34-2218



**PROJECT  
LOCATION**



## GENERAL NOTES

LENGTH (MILES) OF NEW ACCESS ROAD TO BE CONSTRUCTED: **0.54 MILES**  
 LENGTH (MILES) OF EXISTING ROADS TO BE UPGRADED: **0 MILES**  
 MAXIMUM TOTAL DISTURBED WIDTH: **24 FEET**  
 MAXIMUM TRAVEL SURFACE WIDTH: **14 FEET**  
 MAXIMUM GRADES: **5.17 %**  
 NUMBER OF TURNOUTS: **2**  
 NUMBER OF CATTLE GUARDS: **0**  
 NUMBER OF CULVERTS: **0**  
 ACRES DISTURBED FOR NEW ROAD CONSTRUCTION: **0.95 ACRES**  
 ACRES DISTURBED FOR EXISTING ROAD CONSTRUCTION: **0 ACRES**  
 ACRES DISTURBED FOR PAD CONSTRUCTION: **1.58 ACRES**  
 ACRES DISTURBED FOR PAD CONSTRUCTION (INCLUDING STOCKPILES): **2.04 ACRES**

## LEGEND

- ROAD CENTERLINE
- CONTOURS PROPOSED MAJOR
- CONTOURS PROPOSED MINOR
- CONTOURS EXISTING MAJOR
- CONTOURS EXISTING MINOR
- SURFACE SLOPE
- SURFACE SLOPE HORIZ: VERT
- SWALE  $\nabla$  AND DIRECTION
- SILT FENCE
- 0000.00 TP = TOP OF PAD ELEVATION

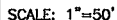
## DRAWINGS INDEX

COVER	COVER SHEET
PAD	PAD SITE AND RIG LAYOUT
PP 1	PLAN AND PROFILE OF MAIN ACCESS ROAD STA: 0+00 - 12+00
PP 2	PLAN AND PROFILE OF MAIN ACCESS ROAD STA: 12+00 - 24+00
PP 3	PLAN AND PROFILE OF SPUR ROAD STA: 0+00 - 6+69.11
D1	DETAILS
D2	DETAILS
D3	DETAILS

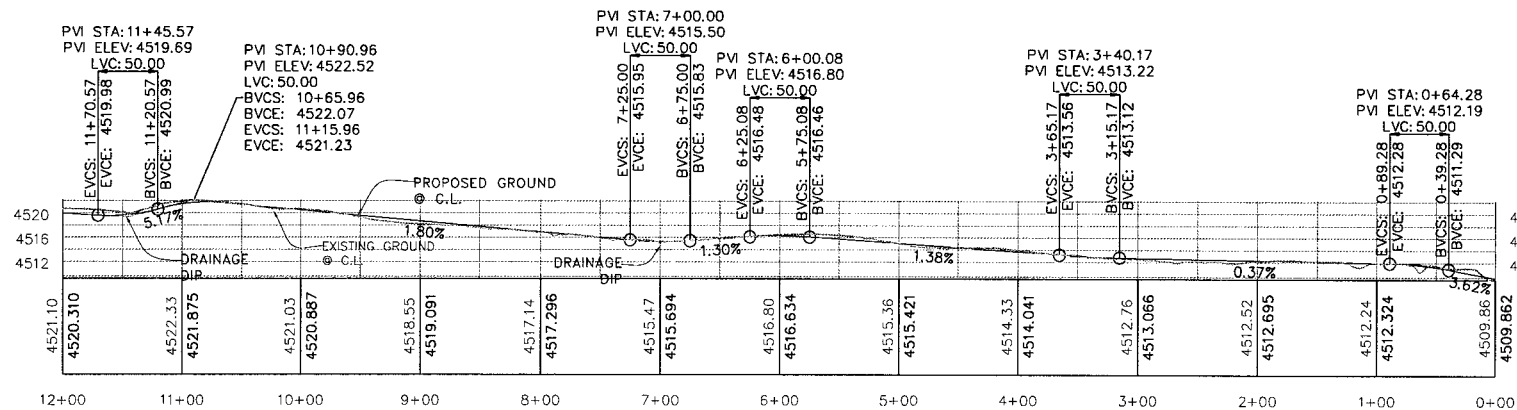
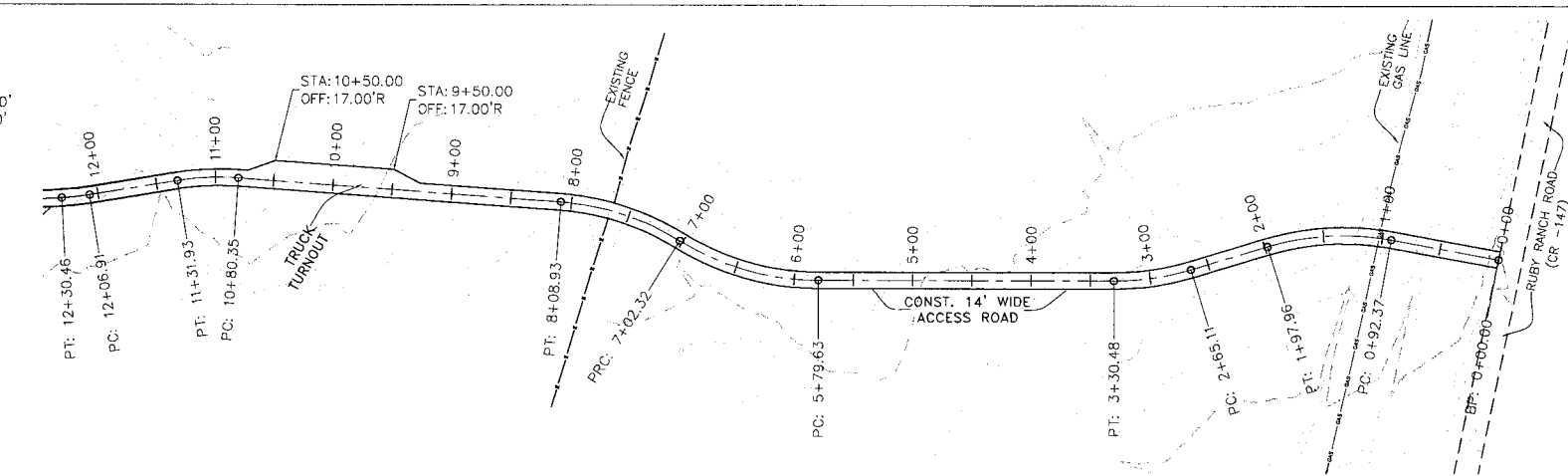
CLIENT: NORTH AMERICAN EXPLORATION  
 PROJECT: CRU 30-34-2218

**WESTERN LAND SERVICES**  
 Richfield, UT 84701 (435) 896-5501

DRAWN BY: C. HILL	DATE: 8/25/08	SHEET NO:
CHECKED BY: J. ATKIN		<b>COVER</b>



HORZ. SCALE: 1"=100'  
VERT. SCALE: 1"=20'

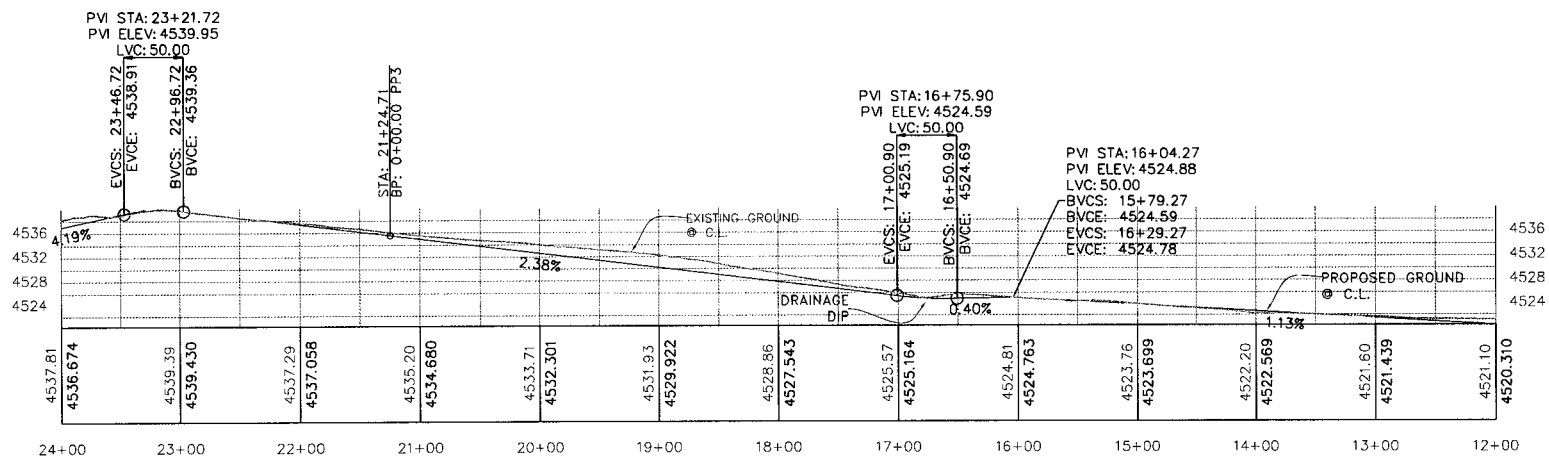
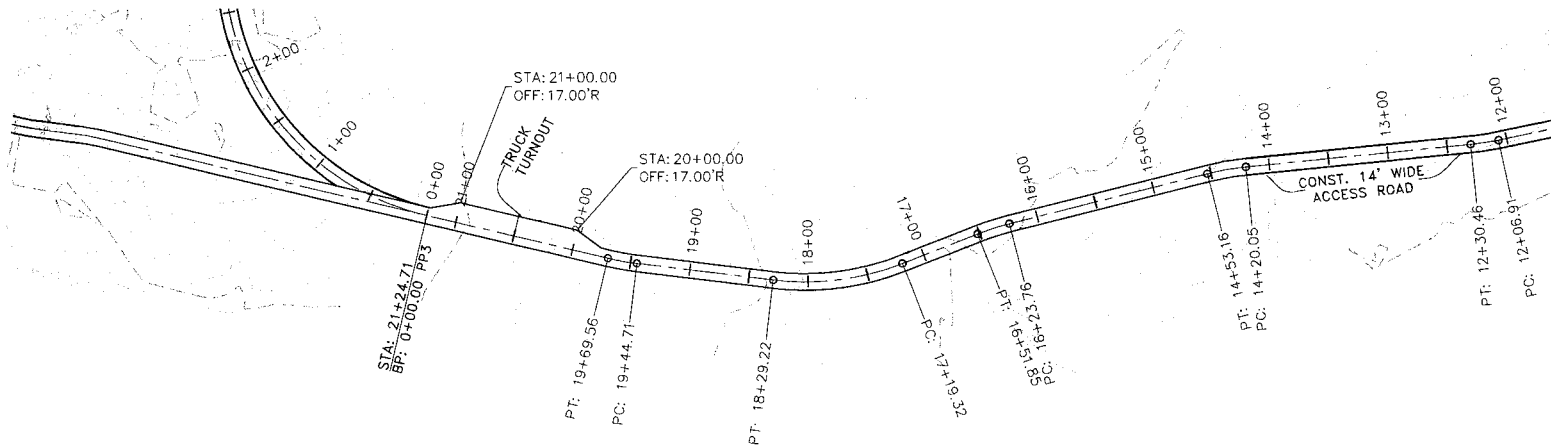


CLIENT: NORTH AMERICAN EXPLORATION  
PROJECT: CRU 30-34-2218

**WESTERN LAND SERVICES**  
Richfield, UT 84701 (435)896-5501

DRAWN BY: C. HILL  
CHECKED BY: J. ATKIN  
DATE: 8.25.08  
SHEET NO: PP1

HORZ. SCALE: 1"=100'  
VERT. SCALE: 1"=20'



PROFILE VIEW: CRU ROAD (21) SCALE: 10  
STATION RANGE: 12+00.00 DATUM: 4520.31

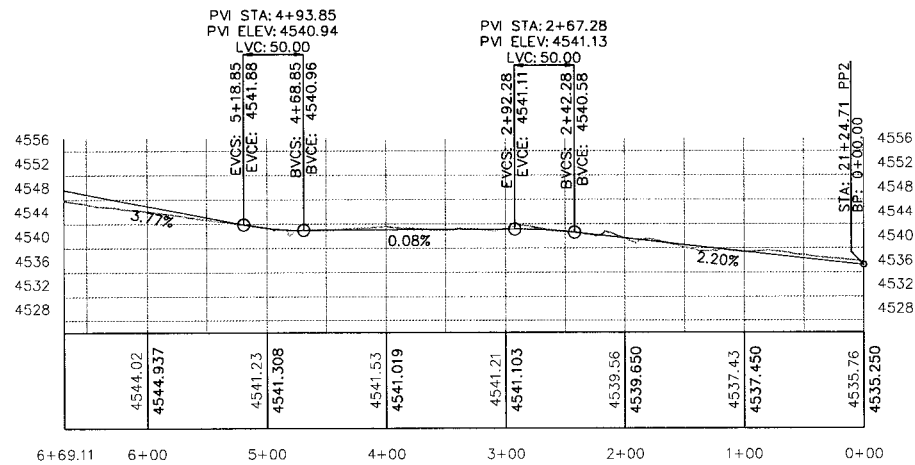
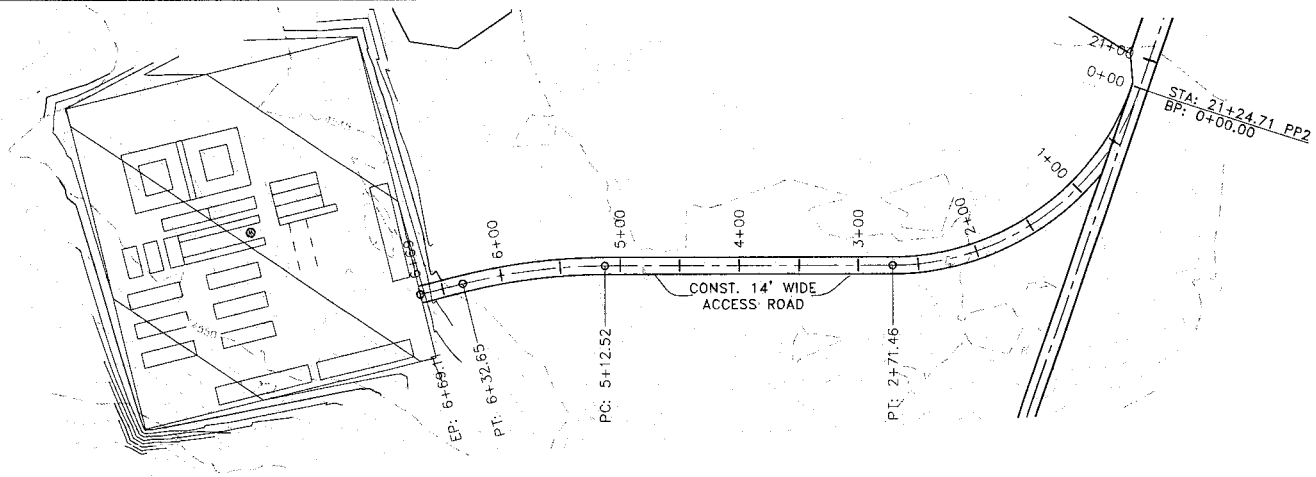
CLIENT: NORTH AMERICAN EXPLORATION  
PROJECT: CRU 30-34-2218

**WESTERN LAND SERVICES**  
Richfield, UT 84701 (435)896-5501


DRAWN BY: C. HILL DATE: 8-25-08  
CHECKED BY: J. ATKIN

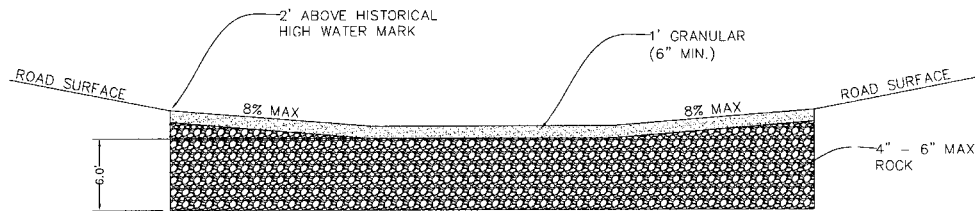
SHEET NO.  
**PP2**

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VERT. SCALE: 1"=20'



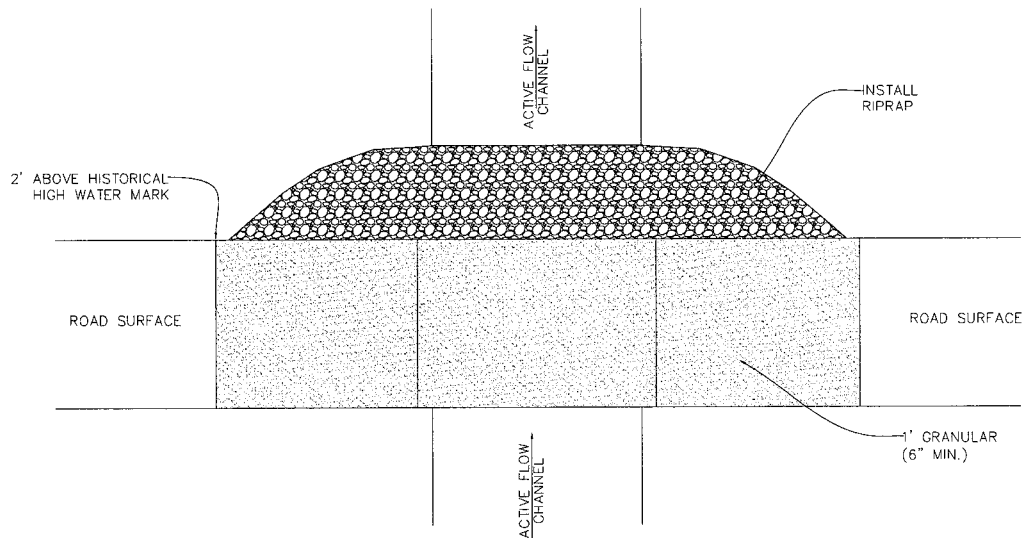
PROFILE VIEW: 30-34-2217 SCALE: 10  
STATION RANGE: 6+69.11 DATUM: 4524.00

CLIENT: NORTH AMERICAN EXPLORATION		
PROJECT: CRU 30-34-2218		
 <b>WESTERN LAND SERVICES</b> Richfield, UT 84701 (435)896-5501		
DRAWN BY: CAHILL	DATE: 8-25-08	SHEET NO: PP3
CHECKED BY: J. ATKIN		



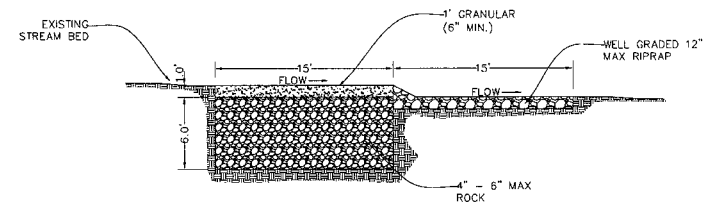
LARGE ROCK LOW WATER CROSSING

ROAD PROFILE  
SCALE: 1"=10'



LARGE ROCK LOW WATER CROSSING

PLAN VIEW  
SCALE: 1"=10'



LARGE ROCK LOW WATER CROSSING

CROSS SECTION  
SCALE: 1"=10'

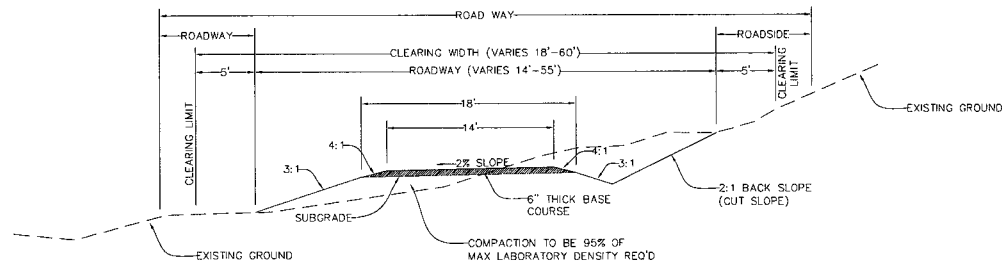
CLIENT: NORTH AMERICAN EXPLORATION  
PROJECT: CRU 30-34-2218



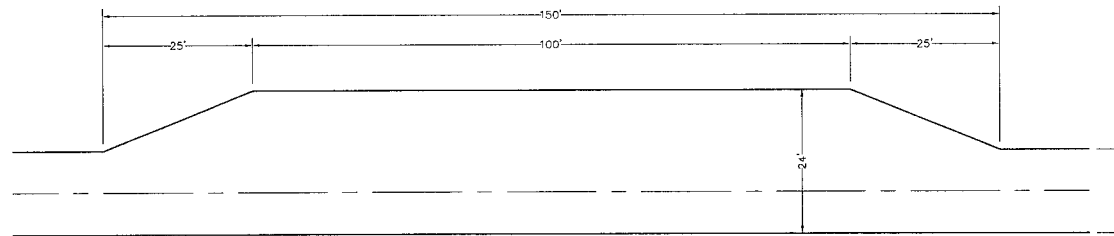
Richfield, UT 84701 (435)896-5501

DRAWN BY: C. HILL  
CHECKED BY: J. ATKIN  
DATE: 8.25.08  
SHEET NO.: D1

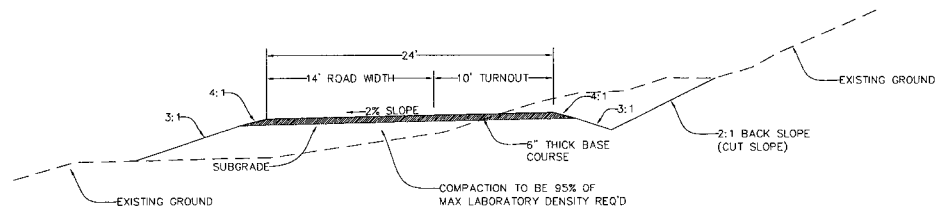





TYPICAL CROSS SECTION  
SCALE: 1"=10'

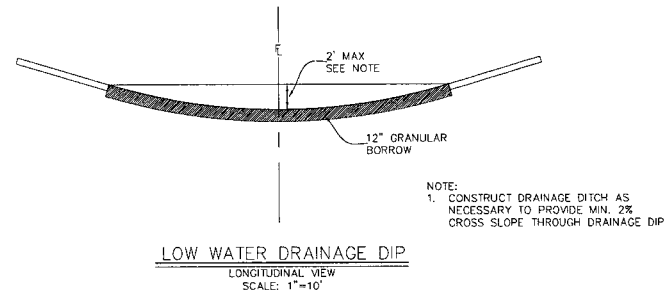
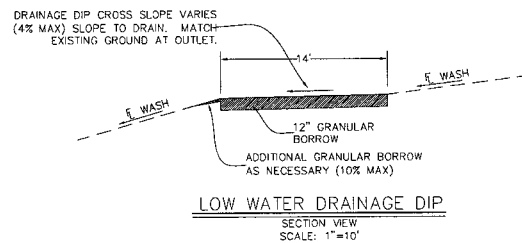



TRUCK TURNOUT  
PLAN VIEW  
SCALE: 1"=5'



TRUCK TURNOUT  
SECTION VIEW  
SCALE: 1"=10'

CLIENT: NORTH AMERICAN EXPLORATION		
PROJECT: CRU 30-34-2218		
 <b>WESTERN LAND SERVICES</b> Richfield, UT 84701 (435)896-5501		
DRAWN BY: C.HILL	DATE: 8.25.08	SHEET NO.: D2
CHECKED BY: J. ATKIN		



CLIENT: NORTH AMERICAN EXPLORATION		
PROJECT: CRU 30-34-2218		
 <b>WESTERN LAND SERVICES</b> Richfield, UT 84701 (435)896-5501		
DRAWN BY: CHILL	DATE: 8/25/08	SHEET NO: D3
CHECKED BY: J. ATKIN		

**WORKSHEET**  
**APPLICATION FOR PERMIT TO DRILL**

APD RECEIVED: 09/02/2008

API NO. ASSIGNED: 43-019-31599

WELL NAME: CRU 30-34-2218

OPERATOR: NAE, LLC ( N3440 )

PHONE NUMBER: 303-327-7144

CONTACT: GLEN NEBEKER

PROPOSED LOCATION:

SWSE 30 220S 180E

SURFACE: 0469 FSL 1677 FEL

BOTTOM: 0469 FSL 1677 FEL

COUNTY: GRAND

LATITUDE: 38.86283 LONGITUDE: -109.9725

UTM SURF EASTINGS: 589145 NORTHINGS: 4301848

FIELD NAME: WILDCAT ( 1 )

INSPECT LOCATN BY: / /

Tech Review	Initials	Date
Engineering		
Geology		
Surface		

LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU-73489

SURFACE OWNER: 1 - Federal

PROPOSED FORMATION: CNCR

COALBED METHANE WELL? NO

RECEIVED AND/OR REVIEWED:

☒ Plat

☒ Bond: Fed[1] Ind[] Sta[] Fee[]  
(No. UTB000296 )

☒ Potash (Y/N)

☒ Oil Shale 190-5 (B) or 190-3 or 190-13

☒ Water Permit

(No. MUNICIPAL )

☒ RDCC Review (Y/N)

(Date: )

☒ Fee Surf Agreement (Y/N)

☒ Intent to Commingle (Y/N)

LOCATION AND SITING:

\_\_\_ R649-2-3.

Unit: CACTUS ROSE *ok*

\_\_\_ R649-3-2. General

Siting: 460 From Qtr/Qtr & 920' Between Wells

☒ R649-3-3. Exception

\_\_\_ Drilling Unit

Board Cause No: \_\_\_\_\_

Eff Date: \_\_\_\_\_

Siting: \_\_\_\_\_

\_\_\_ R649-3-11. Directional Drill

COMMENTS:

STIPULATIONS:

*1- Federal Approval*  
*2- Spacing Stir*



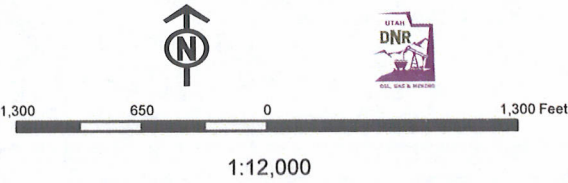


API Number: 4301931599  
Well Name: CRU 30-34-2218  
Township 22.0 S Range 18.0 E Section 30  
Meridian: SLBM  
Operator: NAE, LLC

Map Prepared:  
Map Produced by Diana Mason

**Units**  
**STATUS**  
ACTIVE  
EXPLORATORY  
GAS STORAGE  
NF PP OIL  
NF SECONDARY  
PI OIL  
PP GAS  
PP GEOTHERML  
PP OIL  
SECONDARY  
TERMINATED  
**Fields**  
**STATUS**  
ACTIVE  
COMBINED  
Sections  
Township

**Wells Query Events**  
<all other values>  
GIS\_STAT\_TYPE  
<Null>  
APD  
DRL  
GI  
GS  
LA  
NEW  
OPS  
PA  
PGW  
POW  
RET  
SGW  
SOW  
TA  
TW  
WD  
WI  
WS  
Bottom Hole Location







## WESTERN LAND SERVICES

September 16, 2008

Utah Division of Oil, Gas & Mining  
Diana Mason  
1594 W. N. Temple Suite 1210  
Salt Lake City, Utah 84114-5801

RE: North American Exploration, LLC (NAE) Requests Permission to Drill the CRU #30-34-2218 well

Diana:

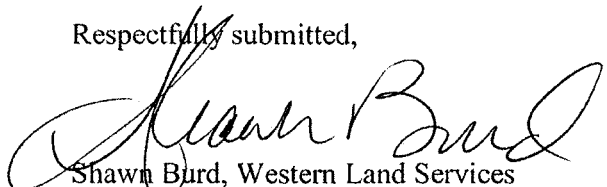
NAE hereby makes application for approval to drill the CRU #30-34-2218 well situated in Township 22 South – Range 18 East; Section 30: SW/SE (469' FSL – 1,677' FEL) on lands administered by the Department of Interior – Bureau of Land Management (BLM). Both the surface and minerals are held by the BLM. The BLM has leased the minerals out to MSC Exploration under lease number UTU – 73489 and MSC Exploration has designated North American Exploration (NAE) as their Designated Unit Operator.

NAE proposes to drill the CRU #30-34-2218 well to a total depth of 2,500 feet and is an exception to Rule R649-3-3. NAE is the only leasehold owner and operator within a 460 foot radius of the bore hole.

NAE proposes to use a vertical drilling program for the CRU #30-34-2218 well. This well is situated outside of the legal drilling window to avoid a Bureau of Land Management 10-acre study plot. Other alternatives were identified but the proposed access route and well location provides the most environmentally sensitive options. Attached hereto is a plat as required by the Commissions rules and regulations.

If no objections are filed, the applicant requests that this application be approved. If objections are filed, applicant requests the matter be set for hearing and that it be advised of the hearing date.

Respectfully submitted,

  
Shawn Burd, Western Land Services  
Designated Agent for North American Exploration

WESTERN LAND SERVICES - UTAH DIVISION

195 North 100 East, Suite 201 • Richfield, UT 84701 • Phone: (435) 896-5501 • Fax: (435) 896-5515

Web: [www.westernls.com](http://www.westernls.com)



JON M. HUNTSMAN, JR.  
Governor

GARY R. HERBERT  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Oil, Gas and Mining

JOHN R. BAZA  
Division Director

September 16, 2008

North American Exploration, LLC  
110 16th St., Ste. 1220  
Denver, CO 80202

Re: CRU 30-34-2218 Well, 469' FSL, 1677' FEL, SW SE, Sec. 30, T. 22 South, R. 18 East,  
Grand County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-019-31599.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Grand County Assessor  
Bureau of Land Management, Moab Office

**Operator:** North American Exploration, LLC  
**Well Name & Number** CRU 30-34-2218  
**API Number:** 43-019-31599  
**Lease:** UTU-73489

**Location:** SW SE                      **Sec.** 30            **T.** 22 South            **R.** 18 East

### **Conditions of Approval**

**1. General**

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**2. Notification Requirements**

Notify the division within 24 hours of spudding the well.

- Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

- Contact Dustin Doucet at (801) 538-5281    (801) 733-0983 home

**3. Reporting Requirements**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

**4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.**

- 5. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board").**
- In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.

**DIVISION OF OIL, GAS AND MINING****SPUDDING INFORMATION**Name of Company: NAE, LLCWell Name: CRU 30-34-2218Api No: 43-019-31599 Lease Type: FEDERALSection 30 Township 22S Range 18E County CARBONDrilling Contractor PETE MARTIN DRLG RIG # 5**SPUDDED:**Date 10/31/08Time 5:30 PMHow DRY**Drilling will Commence:** \_\_\_\_\_Reported by BILL MARSHTelephone # (403) 357-8078Date 11/06/08 Signed CHD



RECEIVED

NOV 05 2008

DIV. OF OIL, GAS & MINING

FORM APPROVED  
OMB No. 1004-0137  
Expires March 31, 2007

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT


APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU-73489
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name N/A
2. Name of Operator North American Exploration, LLC, Attn: Walt Lowry		7. If Unit or CA Agreement, Name and No. Cactus Rose Unit
3a. Address 110 16th Street, Suite 1220 Denver, CO 80202	3b. Phone No. (include area code) (303) 327-7144	8. Lease Name and Well No. CRU 30-34-2218
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface 469' FSL & 1,677' FEL At proposed prod. zone Same as Surface		9. API Well No. 43 OM 31599
14. Distance in miles and direction from nearest town or post office* Approximately 13.5 miles southeast of Green River, Utah		10. Field and Pool, or Exploratory Exploratory
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1,677' FEL		11. Sec., T. R. M. or Blk. and Survey or Area Sec 30 T22S R18E
16. No. of acres in lease 1250.84 Acres		12. County or Parish Grand
17. Spacing Unit dedicated to this well 40 Acres		13. State UT
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 5306.9'		20. BLM/BIA Bond No. on file UTB000296
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 4,548' GR		22. Approximate date work will start* 09/01/2008
		23. Estimated duration 30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

- |  |   |
|--|---|
| 1. Well plat certified by a registered surveyor.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification   |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the BLM.             |

25. Signature 	Name (Printed/Typed) Glen T. Nebeker	Date 8-28-08
Title NEPA Specialist/Project Manager/Authorized Agent		

Approved by (Signature) /s/ Lynn Jackson	Name (Printed/Typed) Lynn Jackson	Date 10/24/08
Title Assistant Field Manager, Division of Resources		Office Division of Resources Mcab Field Office

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*(Instructions on page 2)

CONDITIONS OF APPROVAL ATTACHED

## CERTIFICATION

### BASIS OF BEARING

### BASIS OF ELEVATION

**NARRATIVE**

The purpose of this survey is to plat the location of the proposed well "CRU 30-34-2218" which is located in the Southwest  $\frac{1}{4}$  of the Southeast Quarter of Section 30, T22S, R18E, S.L.B.&M., U.S. Survey.

Southwe  
R18E, S  
(Found

PROPOSED WELL SITE

LATITUDE: 38.86290°N  
LONGITUDE: 109.97338°W  
ELEVATION: 4548' (Graded)  
DISTANCES ARE GROUND  
NAD 83, NAVD 88  
SF:1.000169  
UTAH STATE PLANE  
CENTRAL ZONE

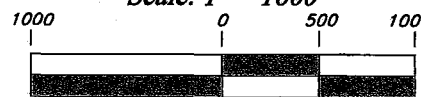
For Reference Only

Latitude: 38.86292°N  
Longitude: 109.97269°W  
NAD 27

LEGEND:

- (W) - PROPOSED WELL LOCATION  
 ● - FOUND STONE MONUMENT  
 □ - CALCULATED CORNER  
 M - MEASURED WITH GPS  
 P - 1907 GLO PLAT  
 C - CALCULATED

**Scale: 1" = 1000'**



### Graphic Scale

NORTH AMERICAN EXPLORATION  
PROJECT: CRU 30-34-2218



## WESTERN LAND SERVICES

Richfield, UT 84701 (435) 896-5501

File: CRU WELL PLATS.DWG

Date: 08/27/08

NAE, LLC  
CRU 30-34-2218  
Cactus Rose Unit  
Lease UTU-73489  
SW/SE Section 30, T22S, R18E  
Grand County, Utah

**A COMPLETE COPY OF THIS APPROVED PERMIT and Conditions of Approval shall be maintained on location during all construction and drilling operations, and shall be available to contractors to ensure compliance.**

#### CONDITIONS OF APPROVAL

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Be advised that NAE, LLC is considered to be the operator of the above well and is responsible under the terms and conditions of the lease for the operations conducted on the leased lands.

Bond coverage for this well is provided by BLM bond no. **UTB000296** (Principal – NAE, LLC) via surety consent as provided for in 43 CFR 3104.2.

This office will hold the aforementioned operator and bond liable until the provisions of 43 CFR 3106.7-2 continuing responsibility are met.

This permit will be valid for a period of two years from the date of approval. After permit termination, a new application must be filed for approval.

All lease operations will be conducted in full compliance with applicable regulations (43 CFR 3100), Onshore Oil and Gas Orders, lease terms, notices to lessees, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors. Failure to comply with the provisions of this permit, including applicable regulations, stipulations, and/or approval conditions, will be considered a violation subject to the enforcement provisions of 43 CFR Subpart 3163.

#### A. DRILLING PROGRAM

1. The 2M BOPE, as proposed, is adequate for anticipated conditions. Installation, testing and operation of the system shall be in conformance with Onshore Oil and Gas Order No. 2.
2. Concurrent approval from the State of Utah, Division of Oil, Gas & Mining (DOGM) is required before conducting any surface disturbing activities.
3. Drilling reports, which describe the activities of each day, shall be submitted to the BLM Moab Field Office on a weekly, or more frequent, basis. In addition to a daily summary of activities, drilling reports shall include the drilling fluid weight, details of casing and cement, water flows, lost circulation zones and any other information that would contribute to our understanding of drilling conditions.

## **B. Surface COAs**

### **1. General**

- a. If COAs are more stringent than the applicant-committed practices the COAs shall prevail.
- b. All contractors, subcontractors or any other individual(s) doing work on this project shall read, understand the Conditions of Approval. They shall have a copy of the Conditions of Approval, project map and design plans with them at all times.
- c. Please contact Dave Skinner, Natural Resource Specialist, at (435) 259-2145, Bureau of Land Management, Moab, if there are any questions concerning these surface use COAs.

### **2. Construction and Operations**

- a. All equipment and vehicles would be confined to the access roads and well pad.
- b. If the CRU 24-14-2217 goes into production and a pipeline is required, it will be buried in the road where the road narrows along the ridge. This will reduce the amount of cuts and fills required for construction, thus minimizing the amount of surface disturbance.
- c. Segments of access road in north ½ of section 25-2217 follow a narrow ridge line. The road in these areas shall be constructed so they are safe to travel on but be kept as narrow as possible to minimize surface disturbance.
- d. Sewage will be contained in portable, self-contained, chemical toilets during construction and drilling operations. Trash would be contained in a portable, self-contained trash cage and hauled to a sanitary landfill.
- e. If the well becomes a producing well, a tank surrounded by an earthen berm will be used to contain produced water. This is in order to eliminate the need for a pit during production. The berm shall have a capacity of 1 ½ times of the tank (or largest tank if more than one tank is used).
- f. The operator shall maintain the existing roads in a safe, usable condition, as directed by the Moab Field Office and Grand County Road Department. The maintenance program shall include, but is not limited to, blading, ditching, installing culverts, and if needed, surfacing the road with rock materials.
- g. The operator shall conduct all activities associated with the Grand County roads within the existing surface disturbances of the maintained roads.
- h. The operator shall repair all damages to the county roads resulting from traffic associated with constructing, drilling, and producing the well.
- i. The operator will paint all permanent (in place for 6 months or more) above ground structures a color that will match the surrounding

environment. The color that has been chosen for this location is Slate Gray (Munsell Soil Color 5Y 6/1). Facilities that must conform to a color standard required Occupational Safety and Health Act (OSHA) will be exempt from this condition.

j. All junk, debris, or other foreign material must be removed before initiating any dirt work to restore the location.

k. The fence around the reserve pit will be maintained in good repair during the drilling operations and would be completed by constructing the fourth side while the pit is drying. It would remain in place until the pit is completely dry and the site restoration begins.

l. Fire suppression equipment would be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire, the Moab Fire Center would be notified (435-259-1850).

m. Impacts from new well pad and road construction would be minimized by appropriate drainage control (i.e. water bars, low water crossings in ephemeral drainages, etc). If the wells go into production, mitigation of impacts to soils would include 1) upgrading roads to BLM Gold Book standards and/or Grand County Road Standards if/when the wells go to production and 2) reclamation of any unused areas (i.e. well pad, unneeded road access). If the well is not produced, then reclamation would mitigate and reduce impacts to soils.

n. The southern corner of the CRU 25-43 well pad will be rounded to minimize the amount of cut during pad construction.

o. The eastern corner of the CRU 24-14 43 well pad will be rounded to minimize the amount of cut during pad construction.

p. Any facilities in an existing right of way that are damaged as a result of the oil and gas operations would be repaired or replaced.

### 3. Reclamation

a. The operator shall salvage the 4 to 6 inches of topsoil from the entire disturbed area of the location prior to construction of the pad. This includes removal of topsoil from the areas where spoil piles will be stored. Topsoil will be planted in cover crop if not respread within six months.

b. Drill pads and new roads to non-producing wells will be reclaimed. Reclamation should include removal of roads not part of the BLM transportation plan or part of roads designated as a Grand County road.

c. The pit will not be left open for more than 90 days from the date of completion of drilling activities. If necessary, the pit will be drained by a vac-truck and then be closed prior to the 90 day deadline. If hydrocarbons or other hazardous materials were in the pit, they will be disposed of in accordance with applicable regulations.

d. The reserve pit and that portion of the location and access road not needed for production or production facilities would be reclaimed. All stockpiled topsoil, in proportion to the area being reclaimed, will be used in reclaiming areas without an on-going operation.

e. Any additional road base material that may have been added to the

access road or pad will be removed. Exceptions may be made to this if the road is part of the BLM transportation plan or is a designated Grand County road.

f. Re-contouring the location to approximate natural contours and conditions, to the extent practicable; evenly redistributing stockpiled topsoil over the re-contoured areas, the cut and fill slopes, and all other disturbed areas.

g. Scarifying of all disturbed areas (including the access road) and re-contoured areas prior to seeding, by use of a disk or harrow, to provide for a slightly roughened surface condition capable of collecting precipitation and holding surface water to promote seed germination.

h. Cut and fill slopes would be stabilized, stockpiles, and other disturbances would be seeded for re-growth of vegetation to stabilize slopes and to reduce erosion.

i. The operator will drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the seedbed, preventing soil and seed losses. To maintain quality and purity, the current year's tested, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used. The seed shall be certified, pure-live and weed-free seed, and seed tags must be available if requested by the Authorized Officer. The following seed mix shall be used:

5-8" Precipitation Zone

Species – Cultivar	% in Mix	Lbs PLS*
Indian Ricegrass - <i>Achnatherum hymenoides</i>	35	3.5
Fourwing saltbush – <i>Atriplex canescens</i>	20	2.0
Western Wheatgrass - <i>Pascopyrum smithii</i>	25	2.5
Shadscale - <i>Atriplex confertifolia</i>	20	2.0
Totals	100%	10.00 lbs/acre

\*PLS = pure live seed

\*Double this rate if broadcast seeding

j. Slopes too steep for machinery may be hand broadcast and raked with twice the specified amount of seed.

k. All of the seeding would be done in the first Fall after drilling (October/November) to prevent premature sprouting and subsequent winter killing of the forb species, due to late summer/early fall precipitation combined with warm soil temperatures.

l. All of the seed would be mixed together, and would either be

broadcast seeded or drill seeded. After broadcast seeding the area would be drug with a small harrow or hand raked to cover the seed.

m. If the reserve pit has adequate capacity, any gravel that may have been used may be buried in the reserve pit, provided that the gravel is not contaminated by oil or other waste materials.

n. The access road would be re-contoured using an excavator or similar equipment, rather than simply ripping the surface. Culverts would be removed from the site. If they are salvageable they would be used in other construction projects. If not, they would be disposed in a landfill. The cellar (six foot diameter concrete structure or culvert) from the base of the drill rig would be removed from the site and disposed in a landfill.

o. Any soils contaminated from oil spills will be disposed of at an approved facility.

p. Any accumulation of hydrocarbons in the reserve pit will be removed and recovered for sale unless it is determined by the Authorized Officer to be waste oil. All waste oil would be disposed of properly at approved facilities.

q. For reclamation, the polyurethane liner in the reserve pit, which is exposed above the cuttings, would be cut, removed from the site, and disposed in an approved landfill. The reserve pit would be backfilled to slightly above grade to allow for settling of the unconsolidated fill material.

#### 4. Wildlife/T&E and Sensitive Species

a. In order to protect nesting raptors, no road or well pad construction, drilling or well completion operations, construction of production facilities or other permanent structure will be authorized within the designated buffer radius during the time limit stipulations (see below).

Species*	Timing Stipulation	Buffer Radius (miles)
Burrowing owls	March 1 through August 31	0.25
Golden eagles	January 1 through August 31	0.50
Ferruginous hawks	March 1 through August 1	0.50
Northern Harriers	April 1 through August 15	0.50
Red-tailed Hawk	March 15 through August 15	0.50
Prairie Falcon	April 1 through August 31	0.50

\*These species are the most likely ones to be encountered in the immediate area of the project area; future nest monitoring might reveal other nesting species which may have timing and buffer stipulations that vary from the ones specified above.

b. Raptors, prairie dogs and kit fox surveys would be required during breeding and nesting season by a qualified biologist. The restriction would reduce potential impacts to these species during young rearing periods. The limitation does not apply to maintenance and operation of

producing wells.

c. Conditions of Approval to the APD for no road/well pad construction and drilling between April 1 and June 15, would reduce potential impacts to prairie dogs and pronghorn during their breeding/birthing period. The restriction would not apply to maintenance and operation of producing wells, and there would be provision for exceptions if the animals were not utilizing the area during specific years.

d. In order to protect fawning antelope, no road or well pad construction, drilling or well completion operations, or construction of production facilities will be authorized between May 1 and June 15.

e. Exceptions to wildlife timing stipulations may be granted on a case by case basis. Exceptions requests shall describe in detail why an exception is needed. Exceptions shall be in writing and delivered to the Moab Field Office.

f. At the end of drilling operations and prior to reclamation of the reserve pit, the top of the pit will be covered with netting of one inch or less to prevent access by birds while the pit is drying.

5. Soil and Water

a. No produced water or other fluids will be disposed on the well pad or roads.

b. No surface disturbing activities would be allowed during the period from December 1 to May 31. This restriction includes heavy equipment traffic on existing roads associated with drilling operations. Exceptions will be granted to this limitation and will be specified in writing by the Moab Field Office.

c. If conditions are wet enough that vehicles are rutting roads four inches deep or more all work shall stop until conditions dry out.

6. Air

a. Dust control will be provided during construction and drilling operations by spraying fresh water on new road construction, roads being maintained, and the well pad.

b. Low speed limits, sufficient to minimize fugitive dust, will be enforced by the operator to limit dust in project and adjacent areas.

7. Noxious Weeds

a. Prior to mobilization to the sites, all equipment used to construct the well pad and access road and equipment used in drilling would be power washed to remove any invasive, non-native weed seeds that may be attached to the equipment to reduce the potential of introducing and spreading new weed species.

b. During the life of the project, until the site is released from liability for reclamation, the operator will be responsible for weed control on the disturbed areas within the limits of the well pad and road construction.



c. The project would be inspected in the spring, summer and fall for noxious weeds. If any weeds are discovered an Integrated Pest Management Plan will be created and BLM approval will be obtained (pesticide use permit) prior to beginning any treatment program. The operator will be responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods.

d. The operator will monitor for noxious weeds that might move onto the location. If any are discovered an Integrated Pest Management Plan will be created and need BLM approval prior to beginning any treatment program.

8. Paleontological Resources

The operator shall immediately notify the BLM authorized officer of any paleontological resources discovered as a result of operations under this authorization, protect the discovery from damage or looting, and suspend all activities in the vicinity of such discovery until notified to proceed by the authorized officer. The operator is not required to suspend operations if activities can avoid further impacts to a discovered locality or be continued elsewhere.

The authorized officer will evaluate, or will have evaluated, such discoveries as soon as possible but not later than 10 working days after being notified. Appropriate measures to mitigate adverse effects to significant paleontological resources will be determined by the authorized officer after consulting with the operator. Approval for the project to proceed will be granted when recovery of the fossil material and field data is completed.

The operator is responsible for the cost of any investigation necessary for the evaluation and mitigation of paleontological resources. The operator is not responsible for the cost of recovery outside of the approved area of disturbance, even if the paleontological locality continues outside that area.

9. Cultural

a. The operator intends to use an existing Class D county road to access the CRU 24-14-2217 well location. A segment of the existing road bisects an archeological site (42GR4112 in T22S/R17E/S25). The operator has agreed to avoid this site. Prior to using or improving the access road, the operator, the Grand County Road Department and the BLM shall develop an agreement to close the Class D road that bisects the site and reroute this segment of so that the archeological site is avoided.

b. If any cultural values (sites, artifacts, human remains) are observed during operation of this lease/permit/right-of-way, they will be left intact and the Moab Field Manager notified. The authorized officer (AO) will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
- a time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.

### C. REQUIRED APPROVALS, REPORTS AND NOTIFICATIONS

Required verbal notifications are summarized in Table 1, attached.

Building Location- Contact the Moab Field Office, Natural Resource Protection Specialist at least 48-hours prior to commencing construction of location.

Spud- The spud date will be reported to BLM 24-hours prior to spud. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the Moab Field Office within 24-hours after spud, regardless of whether spud was made with a dry hole digger or big rig.

Daily Drilling Reports- Daily drilling reports shall detail the progress and status of the well and shall be submitted to the Moab Field Office on a weekly basis.

Oil and Gas Operations Reports (OGORs)- Production from this well shall be reported to Minerals Management Service (MMS) on a monthly basis.

Sundry Notices- There will be no deviation from the proposed drilling and/or workover program without prior approval. "Sundry Notices and Reports on Wells" (Form 3160-5) will be filed with the Moab Field Office for approval of all changes of plans and subsequent operations in accordance with 43 CFR 3162.3-2. Safe drilling and operating practices must be observed.

Drilling Suspensions- Operations authorized by this permit shall not be suspended for more than 30 days without prior approval of the Moab Field Office. All conditions of this approval shall be applicable during any operations conducted with a replacement rig.

Undesirable Events- Spills, blowouts, fires, leaks, accidents, or any other unusual occurrences shall be immediately reported to the BLM in accordance with requirements of NTL-3A.

Cultural Resources- If cultural resources are discovered during construction, work that might disturb the resources is to stop, and the Moab Field Office is to be notified.

First Production- Should the well be successfully completed for production, the Moab Field Office will be notified when the well is placed in producing status. Such notification may be made by phone, but must be followed by a sundry notice or letter not later than five business days following the date on which the well is placed into production.

A first production conference will be scheduled as soon as the productivity of the well is apparent. This conference should be coordinated through the Moab Field Office. The Moab Field Office shall be notified prior to the first sale.

Well Completion Report- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted to the Moab Field Office not later than thirty-days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs, core descriptions, core analyses, well test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. When requested, samples (cuttings and/or samples) will be submitted to the Moab Field Office.

Venting/Flaring of Gas- Gas produced from this well may not be vented/flared beyond an initial, authorized test period of 30 days or 50 MMcf, whichever first occurs, without the prior, written approval of the Moab Field Office. Should gas be vented or flared without approval beyond the authorized test period, the well may be ordered shut-in until the gas can be captured or approval to continue the venting/flaring as uneconomic is granted. In such case, compensation to the lessor (BLM) shall be required for that portion of the gas that is vented/flared without approval and which is determined to have been avoidably lost.

Produced Water- An application for approval of a permanent disposal method and location will be submitted to the Moab Field Office for approval pursuant to Onshore Oil and Gas Order No.7.

Off-Lease Measurement, Storage, Commingling- Prior approval must be obtained from the Moab Field Office for off-lease measurement, off-lease storage and/or commingling (either down-hole or at the surface).

Plugging and Abandonment- If the well is completed as a dry hole, plugging instructions must be obtained from the Moab Field Office prior to initiating plugging operations.

A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the Moab Field Office within thirty-days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the Moab Field Office or the appropriate surface managing agency.

#### TABLE 1 NOTIFICATIONS

Notify Jack Johnson (435-259-2129) or Dave Skinner (435-259-2145) of the BLM Moab Field Office for the following, as appropriate:

2 days prior to commencement of dirt work, construction and reclamation (Skinner);

1 day prior to spud (Johnson);

50 feet prior to reaching the surface casing setting depth (Johnson);

3 hours prior to testing BOPs (Johnson).

If the people at the above numbers cannot be reached, notify the Moab Field Office at 435-259-2100. If unsuccessful, contact the person listed below.

Well abandonment operations require 24 hour advance notice and prior approval. In the case of newly drilled dry holes, verbal approval can be obtained by calling the Moab Field Office at 435-259-2100. If approval is needed after work hours, you may contact the following:

Eric Jones, Petroleum Engineer

Office: 435-259-2117

Home: 435-259-2214

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: NAE, LLC Operator Account Number: N 3440  
Address: 110 16th St. STE 1220  
city Denver  
state CO zip 80202 Phone Number: (303) 327-7145

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4301931599	CRU 30-34-2218		SWSE	30	22S	18E	GRAND
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	17209	7/31/2008		11/25/08		
Comments: <u>CNCR</u> <b>CONFIDENTIAL</b>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
Comments:							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

Erik Larsen

Name (Please Print)

Signature

Land/Env.

Title

11/10/2008

Date

**RECEIVED**

**NOV 10 2008**

DIV. OF OIL, GAS & MINING

Present Depth:	65.00
Footage Last 24 Hours:	0.00
Hours Drilling:	
Daily Well Cost:	\$30,317.00
Cumulative Well Cost:	\$185,817.00

# CONFIDENTIAL

CRU 30-34-2218  
22S 18E 30

**24 hr Activity:** 24:00 MIRU Frontier #5. Fill pits with fresh water. Weld on bell nipple. PU 12.25" bit and DCs. Prepare to spud well. Jack Johnson with the Moab BLM is on location to witness spud. Spud well at 1000 hrs 11/07/2008.

11/6/2008

DAILY SUMMARY	
Present Operations:	01 – Rig Up and Tear Down
Days From Spud:	-1
Present Depth:	65.00
Footage Last 24 Hours:	65.00
Hours Drilling:	
Daily Well Cost:	\$78,000.00
Cumulative Well Cost:	\$155,500.00

**24 hr Activity:** 24:00 MIRU Frontier Rig #5. Plan to spud well in the next 24 hours. Called Carol Daniels (801) 535-5284 with the UDOGM, Bart Kettle (435) 820-0862 with the UDOGM, and Jack Johnson (435) 259-2129 with the Moab BLM, and notified each of NAE's intent to spud well within 24 hours.

NAE Drilling Prognosis CRU 30-34-2218 Complete Final 10-20-08 v1.pdf

10/31/2008

DAILY SUMMARY	
Present Operations:	02A- Drill Rotating
Days From Spud:	-7
Present Depth:	65.00
Footage Last 24 Hours:	65.00
Hours Drilling:	
Daily Well Cost:	\$77,500.00
Cumulative Well Cost:	\$77,500.00

**24 hr Activity:** 24:00 Finish building road and location with Nielson Construction. Spud well by setting 65' BGL of 16" conductor casing with Pete Martin Drilling. Dig cellar and finish location preparation. Line reserve pit. WO Frontier Rig #4 to drill well. Frontier #4 is currently stuck and fishing on a Samson well, and will likely initiate sidetrack operations.



<b>Present Depth:</b>	2,500.00
<b>Footage Last 24 Hours:</b>	1,792.00
<b>Hours Drilling:</b>	19:45
<b>Daily Well Cost:</b>	\$23,790.00
<b>Cumulative Well Cost:</b>	\$296,574.00

**24 hr Activity:** 9:30 Drill 7-7/8" hole from 708' to 1590'. 1:00 Rig service- lubricate rig. Function test BOPE. 5:00 Drill 7-7/8" hole from 1590' to 2100'. 0:30 Circulate and condition hole. Pump hi-vis sweep. 2:45 Make 20 stand short trip to wipe and clean hole. CCM and build volume. Perform light mud-up to prepare for electric logging operations. 5:15 Drill 7-7/8" hole from 2100' to 2500'. (TD is picked to be 2510' MD/TVD). Top of Chinle found at 2410'. Will drill 100' of rathole to ensure top of Chinle will be identified by elogs.

11/9/2008

<b>DAILY SUMMARY</b>	
<b>Present Operations:</b>	02A- Drill Rotating
<b>Days From Spud:</b>	2
<b>Present Depth:</b>	708.00
<b>Footage Last 24 Hours:</b>	364.00
<b>Hours Drilling:</b>	6:00
<b>Daily Well Cost:</b>	\$38,912.00
<b>Cumulative Well Cost:</b>	\$272,784.00

**24 hr Activity:** 4:30 WOC. 2:30 Cut off conductor casing. Make final cut on 8-5/8" casing. Weld on 8-5/8" SOW x 11" 3M bradenhead. 1:30 NU 11" 3M double ram BOP, annular preventer, and rotating head. 2:00 Test double ram preventers and annular preventer to 2000 psi as per BLM requirements. Jack Johnson with the Moab BLM witnessed the BOPE test. 3:30 MU bit, monel DC, hang off sub, and 20 6.25" DCs and TIH. Tag cement at 288'. Drill out casing shoe. 1:30 Work on flowline. 0:30 Drill 7-7/8" hole from 344'-423'. 2:30 POOH and check bit, mud motor, and drill string for washouts due to pressure loss. 5:30 Drill 7-7/8" hole from 423'- 708'.

11/8/2008

<b>DAILY SUMMARY</b>	
<b>Present Operations:</b>	14 – Nipple Up / Nipple Down BOP
<b>Days From Spud:</b>	1
<b>Present Depth:</b>	344.00
<b>Footage Last 24 Hours:</b>	279.00
<b>Hours Drilling:</b>	7:00
<b>Daily Well Cost:</b>	\$47,745.00
<b>Cumulative Well Cost:</b>	\$233,872.00

**24 hr Activity:** 4:00 RU Frontier Rig #5. 0:30 Drill 12.25" hole f/ 58' to 131' Spud well at 1000 hrs 11/7/2008. Jack Johnson w/ Moab BLM Office witnessed spud. 1:00 TOOH for sticky hole. Suspect mud ring around DC's. Clean off mud ring. TIH. 1:00 Mud up and circ and condition hole. 3:00 Drill 12.25" hole f/ 131' to 221'. 0:30 Run deviation survey at 200'. 0.5deg incination. 3:30 Drill 12.25" hole f/ 221' to 344'. 0:45 Circulate and condition mud. 0:45 Make wiper trip to base of conductor pipe at 74' RKB. 0:45 Circulate and condition mud. 0:45 Strap out of hole to run casing. 1:30 Hold safety meeting with rig crew and American Bore and Casing crew. RU casinfg crew. Run 8 joints of 8-5/8" 24.0# J55 STC casing to 338'. 1:15 Circulate and condition mud. Pump 1.5x casing volume. 0:45 Hold safety meeting with rig crew and Halliburton. RU Halliburton. Pressure test lines to 2500 psi. Pump 100sx (37.8 bls) Howco Lite cement at 12.8 ppg, 2.11 cf/sx. Had 1 bbl of good cement returns. Good returns throughout job. Jack Johnson w/ Moab BLM Office witnessed surface casing cement job. . 3:00 WOC. 1:00 Cut off conductor casing. Cut off casing. Weld on 8-5/8" SOW x 11" 3M bradenhead. Prepare to NU BOPE.

11/7/2008

<b>DAILY SUMMARY</b>	
<b>Present Operations:</b>	02A- Drill Rotating
<b>Days From Spud:</b>	



43-019-31599



## Drilling/Completion Summary Report

**Well Name:** CRU 30-34-2218

**Field:** Wildcat

**AFE:** Drilling AFE

**County/Parish/State:** Grand/Utah

**Operator:** North American Exploration, LLC

**Contractor:** Frontier Drilling

**Date:** 11/19/2008

**CONFIDENTIAL**

11/12/2008

### DAILY SUMMARY

<b>Present Operations:</b>	23 – Abandonment
<b>Days From Spud:</b>	5
<b>Present Depth:</b>	0.00
<b>Footage Last 24 Hours:</b>	-2,510.00
<b>Hours Drilling:</b>	
<b>Daily Well Cost:</b>	\$73,700.00
<b>Cumulative Well Cost:</b>	\$427,450.00

**24 hr Activity:** 4:00 Wait on EnCana's election to plug and abandon or take over well. EnCana elected to not take over the well in writing at 1000 hrs. 11:00 Wait on Halliburton to load cement for plugging well. Halliburton was scheduled to be on location at 1600 hours and arrived on location at 2100 hours. Halliburton reported they were delayed at the Utah Port of Entry. 5:30 Hold safety meeting with rig crew and Halliburton hands. RU Halliburton. Test lines to 2500 psi. Plug and abandon well as per attached schematic. Set 4 plugs: Plug #1: 410' plug from 50' above top of Wingate Formation to TD (2100' to 2510'). Plug #2: 750' plug from 50' above top of Entrada Formation to 1600' (top of Navajo at 1401'). Plug #3: Set a 100' plug from 288' to 388' (50' inside and outside of 8-5/8" surface casing shoe at 338'. Plug #4: Set a 50' plug inside the 8-5/8" surface casing at the surface. All plugs were Class 'G' neat cement mixed at 15.6 ppg with a yield of 1.08 cf/sx. The fluid left in the wellbore between plugs is 8.8 ppg fresh water mud with a viscosity of ~75 cp. 2:30 Laydown drillpipe. 3:00 ND BOPE. Cut off wellhead. Cut off conductor casing and surface casing 3-4' BGL. Install plate on 8-5/8" surface casing with pertinent well information required by the BLM. Dump and clean mud tanks. Release Frontier Drilling Rig #5 at 0800 hours 11/12/08.

CRU 30-34-2218 ACTUAL Plug and Abandon Schematic WL 11-12-08.xls

11/11/2008

### DAILY SUMMARY

<b>Present Operations:</b>	06 – Trips
<b>Days From Spud:</b>	4
<b>Present Depth:</b>	2,510.00
<b>Footage Last 24 Hours:</b>	10.00
<b>Hours Drilling:</b>	0:30
<b>Daily Well Cost:</b>	\$57,176.00
<b>Cumulative Well Cost:</b>	\$353,750.00

**24 hr Activity:** 0:30 Drill 7-7/8" hole from 2500' - 2510'. TD well at 2510'. 1:00 Circulate and condition hole. 2:00 Make wiper trip to surface casing shoe at 338'. No tight spots or drag. 1:00 Circulate and condition hole for logs. 1:00 Slick line measure out of hole for logs. No depth correction. 1:30 Break BHA and stand in derrick. 3:30 Hold safety meeting with rig crew and Halliburton logging crew. RU Halliburton. TIH w/ logging tools. Logger depth 2510'. Log out with triple combo logs (CNL/FDC/GR/Dual Induction). 3:00 TIH w/ BHA. POOH and laydown DCs, Pure survey tool, and bit. PU drillpipe to replace BHA. 2:00 TIH w/ opened drillpipe and prepare to plug well. 8:30 Circulate and condition hole while waiting on orders. Elogs and mudlog sent to EnCana. Waiting on EnCana's election to plug well or take over well.

11/10/2008

### DAILY SUMMARY

<b>Present Operations:</b>	02A- Drill Rotating
<b>Days From Spud:</b>	3





STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

**CONFIDENTIAL**

AMENDMENT REPORT ☐  
highlight changes  
LEASE DESIGNATION AND SERIAL NUMBER:  
UT-73-159

FORM 8

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input checked="" type="checkbox"/> OTHER _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
b. TYPE OF WORK: NEW WELL <input type="checkbox"/> HORIZ. LATS. <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER <u>P&amp;A</u>		7. UNIT or CA AGREEMENT NAME <b>CACTUS ROSE UNIT</b>
2. NAME OF OPERATOR: <b>NAE LLC</b>		8. WELL NAME and NUMBER: <b>CRU 30-34-2218</b>
3. ADDRESS OF OPERATOR: <b>110 16TH ST, STE 1220 CITY DENVER STATE CO ZIP 80202</b>		9. API NUMBER: <b>4301931599</b>
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>469' FSL, 1677' FWL</b>  AT TOP PRODUCING INTERVAL REPORTED BELOW:  AT TOTAL DEPTH:		10. FIELD AND POOL, OR WILDCAT <b>WILDCAT</b>
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: <b>SWSE 30 22S 18E</b>		12. COUNTY <b>GRAND</b>
		13. STATE <b>UTAH</b>

14. DATE SPUDDED: <b>11/7/2008</b>	15. DATE T.D. REACHED: <b>11/11/2008</b>	16. DATE COMPLETED: <b>11/12/08</b>	ABANDONED <input checked="" type="checkbox"/> READY TO PRODUCE <input type="checkbox"/>	17. ELEVATIONS (DF, RKB, RT, GL): <b>4548 GR</b>
18. TOTAL DEPTH: MD <b>2,510</b> TVD <b>2,510</b>	19. PLUG BACK T.D.: MD TVD	20. IF MULTIPLE COMPLETIONS, HOW MANY? *	21. DEPTH BRIDGE MD PLUG SET: TVD	
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) <b>CNL/FDC/GR/DUAL INDUCTION</b>			23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit copy)	

**24. CASING AND LINER RECORD (Report all strings set in well)**

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
12 1/4	8 5/8" J55			338		HOWG 100			

**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)
(A)				
(B)				
(C)				
(D)				

**27. PERFORATION RECORD**

INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
			Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.**

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL

**29. ENCLOSED ATTACHMENTS:**

- |   |  |                                       |   |
|---|--|---------------------------------------|---|
| <input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS                         | <input type="checkbox"/> GEOLOGIC REPORT | <input type="checkbox"/> DST REPORT   | <input type="checkbox"/> DIRECTIONAL SURVEY |
| <input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION | <input type="checkbox"/> CORE ANALYSIS   | <input type="checkbox"/> OTHER: _____ |   |

**30. WELL STATUS:**

RECEIVED

AUG 26 2009

RECEIVED P&A

AUG 26 2009

## 31. INITIAL PRODUCTION

## INTERVAL A (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL B (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL C (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## INTERVAL D (As shown in item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

## 32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

## 33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)

## 35. ADDITIONAL REMARKS (Include plugging procedure)

P&A w/ 348 sx cemnt; 141 sx @ 410', 86 sx @ 250', 69 sx @ 200', 35 sx @ 100', 17 sx @ 50'.

## 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) MARK GRUMMONTITLE ECECUTIVE VP

SIGNATURE \_\_\_\_\_

DATE 8/21/2009

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

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